A Lecture

ON

THE ACTION OF TUBERCULIN AND ITS APPLICATION TO THE TREATMENT OF DIFFERENT FORMS OF TUBERCULOSIS.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

BY

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THE ability to use a drug with success presupposes some knowledge of its action and of how this action is likely to influence the diseased tissues to which it is applied. This would seem a needless remark, and as an abstract proposition it would elicit the agreement of every one; and yet it is a fact that tuberculin is being administered by many at the present time with little or no knowledge of its action, and with still less clear aim in their application of it to the needs of the diseased tissues. Such an empirical use is not justified in the case of tuberculin, for, though our knowledge of its action is still imperfect, it is yet ample to supply us with a rational working basis. It is my object in this lecture to put before you, in outline at least, the main facts of its action, and how this action may be rationally applied in the treatment of different varieties of tuberculous disease.

ACTION OF TUBERCULIN.

One of the first points to grasp in the action of tubercle products is that they are quite innocuous to the non-tuberculous. Hamburger injected 1 c.cm. of Old Tuberculin into a healthy boy without any effects other than those due to the glycerine content, and Schreiber tested 40 newborn infants with doses up to $\frac{1}{10}$ c.cm. without result. Among adults living under modern conditions it is difficult to find individuals who have never been infected with tubercle. The ubiquity of tuberculous infection has only been thoroughly realized of late years, and when Koch suffered a very severe and even dangerous reaction from the injection of 0.25 c.cm. Old Tuberculin into himself, he regarded himself in the light of a heal hy control. We now know that such sensitiveness to tuberculin was due to a former infection with the tubercle bacillus, and that nearly all adults show a similar susceptibility to large doses.

TUBERCULOUS SENSITIVENESS.

This brings us to our second point, the corollary of our first—namely, that tuberculous sensitiveness must be present before tuberculin can act, and also that this is only brought about by infection, recent or remote, with the tubercle bacillus. The exact change in the tissues which enables them to "activate" tuberculin we do not yet understand, and it would be unprofitable to discuss the subject here; but reference must be made to the striking likeness of tuberculous sensitiveness to anaphylaxis, which is a closely analogous, though probably not identical, phenomenon, and the fact that lytic action is held by many to afford a plausible explanation of both facts. One of the main points in which they differ is that anaphylaxis is set up by the injection of dead albumen, but tuberculous sensitiveness as we know it has only been produced, hitherto, by the growth of living tubercle bacilli in the body.

Tuberculin Reaction and Negative Phase.

Given tuberculous sensitiveness, tuberculin becomes a powerful drug, and we will consider at once the common results of a full therapeutic dose. Some hours after the injection a train of symptoms appear known as the "tuberculin reaction." These may be "local," at the point of injection; "general," mainly affecting the nervous system; and "focal," at the site of disease. Any one or more of these effects may be present. The local reaction is sometimes useful as a guide to dosage, and there its utility stops; the general reaction is altogether a disadvantage, save as a warning against overdosage; the focal reaction claims closer attention. Where a disease like phthisis is under treatment, slight focal changes are necessarily hidden, and almost an increase of sputum draws some attention to them. If, however, a visible lesion is under treatment, as in disease of the larynx, eye, or skin, it is found that slight focal reaction—that is, an active hyperaemia of the focus of disease—is the constant result of an effective dose of tuberculin.

Still another phenomenon must be mentioned together with the tuberculin "reaction," and that is the fluctuation of the opsonic power of the blood known as a "negative phase," for these run side by side. The determination of opsonic power is a convenient measure of antibody content in general, for it is probable that other antibodies are also concerned, and that these follow the opsonins in their fluctuation.

Tolerance and Positive Phase.

Following the tuberculin reaction and negative phase, after these have run their course, a very distinct rebound to conditions of increased health is generally observable. The patient experiences a feeling of heightened well-being, appetite increases, and weight is gained. In the foci of disease secretion diminishes and healing often proceeds apace; in lung disease the sputum may diminish. Corresponding to this improved clinical picture, two points present themselves to special methods of investigation. First, the patient becomes for a week or two "refractive" or tolerant to tuberculin—that is, it will need an increased dose to cause as large an effect as the first dose produced; secondly, there is an increase in the opsonic power of the blood, and probably in the content of other antibodies also, so that we have at this stage what is spoken of as the "positive phase" of immunization.

Now I think we have collected shortly enough material to supply us with some discussion on the action of tuberculin, and we will turn for a moment to the disease which we desire to influence.

LOCALIZED TUBERCULOSIS.

If we consider, first of all, a case of localized tuberculosis we find that we know, among others, the following facts: First, the opsonic content of the blood is below normal; secondly, the opsonic content, and therewith probably the presence of other antibodies, is especially low in the focus of disease; thirdly, the striking point about this focus is its very deficient blood supply. Localized tuberculous areas are but poorly vascularized, and on this account both disease and repair when left to themselves are extremely slow. The tubercle bacillus is walled in from the protective substances in the blood; bacillary substances filter through but slowly to stimulate the production of antibodies; food for nutrition of the cells in the neighbourhood is kept constantly scarce. Now, we may consider how an efficient dose of tuberculin will influence the course of localized tuberculosis.

Effect of Tuberculin.

First, the immediate effect of a dose of tuberculin possesses an element, the focal reaction, which is of infinite value in the treatment of localized disease. The main difficulty is at once overcome; blood, carrying antibodies and nutriment, is brought to the area of disease. This becomes obviously more vascular, and the plasma passing through it is increased.

Secondly, in the period following the reaction there is a general increase of antibodies in the blood shown in the "positive phase" of opsonic power, so that at the next injection more highly protective blood will flood the focus of disease. The result of the focal hyperaemia and the increase of antibodies shows itself in a marked healing tendency observable in visible tuberculous areas in the second week after an injection.

Practical Application.

We may now consider the administration of tuberculin in cases of localized tuberculosis from the point of view of practice. It is obvious from what has gone before that the following aims must be put before us:

1. To irrigate the diseased area by the production of a mild but prolonged focal reaction.
2. To keep the opsonic power of the blood at a high level for as long a period as possible.

The Dose.—These aims are generally served by the administration of an insoluble preparation of tuberculin in as large a dose as the "general symptoms" of the tuberculin reaction permit. The preparations of tuberculin most slowly absorbed are the endoplasm preparations, T.R. and B.E. and their congeners, and T.R. is probably the best for this purpose. The "general symptoms" must be kept within strict limits of time and scope, or weight is lost and general well-being declines. Generally a few days of slight malaise are all that are wisely permitted, but need for limitation of dosage may come from the side of local considerations, for if caseous material is present a marked focal reaction will cause this to soften, and the desirability or otherwise of this has to be decided in each particular case.

The Interval.—The other main practical point for consideration in the tuberculin treatment of localized tuberlosis is the interval between the doses, and this is governed by two factors. First, we desire to give the positive phase of antibody formation full scope, and experience teaches us that two or three weeks covers this period. Secondly, we have got to wait for the passing off of the "refractive period" to tuberculin which, as we have already mentioned, follows each effective dose. The means of measuring this I shall not enter into here, but it is found that it corresponds very closely in duration with that of the opsonic immunizing response. In all cases the interval must vary with the dosage. If a highly efficient dosage is employed the interval may be about three weeks; if a subefficient dose is for some reason used the interval may be shorter, perhaps ten days. A too short interval can always be shown by inequality in the effect of the dosage—a dose falling within the refractive period will be inefficient, and will consequently be followed by a shortened refractive period, so that the next dose will fall outside this, and will have a greater effect. Thus large and small effects will alternate.

Having found the suitable dose and gauged the suitable interval, in a straightforward case of localized tuberculosis little more is needed for success than to keep the ball rolling till healing occurs. It will be found when progress is made that sensitiveness becomes less as the area of disease diminishes, and so the dose may need to be raised from time to time to keep it effective.

Autotoxic Tuberculosis.

When the treatment of such a disease as phthisis comes to be considered, it is obvious that we have a very different state of things to those present in localized tuberculosis. Our aims are similar—namely, the production of a good supply of antibodies and the improved blood supply of diseased areas brought about by mild focal reactions. If, however, we try to fulfil these aims in a manner similar to that which is successful in localized tuberculosis, we soon meet with failure. In the first place, the small dose which is efficient in a case of localized disease is obviously futile in a patient whose tissues are already flooded with autotuberculin. In the second place, the presence of this autotuberculin may and does greatly change the response of the patient's tissues to tuberculin, so that the size of an effective dose differs enormously in various patients and in the same patient at different times. On the one hand there may be increased sensitiveness to tuberculin; on the other hand, a considerable amount of tolerance may have been naturally produced. Thirdly, we are met at once by the pertinent question, Are we going to do any good by giving more tuberculin to a patient who is already getting too much?

The Foundation of Tolerance.

Let us turn once again to the action of tuberculin before we go further into autotoxic disease. We have seen how a dose of tuberculin is followed by a "refractive" interval. In cattle this is so marked as to be utilized by dealers in passing off tuberculous beasts as healthy. A dose of tuberculin is given before the deal, and the animals no longer react to the test injection of tuberculin given by the buyer. In the human we have seen that an interval of two or three weeks has to be waited if the same dose of tuberculin is to be repeated with equal effect. Suppose, however, we elect to give our second injection during the refractive period, if we desire it to be effective we must raise the dose. The effect of this second dose is to raise tolerance still further, so that the third dose must be bigger still; and so with injections at short intervals, we must constantly raise the dose if we are to obtain each time the action of tuberculin—namely, mild focal reaction and stimulation of antibody formation. By this means we obtain, in addition to the effect of each dose, a *tolerance* to tuberculin established, so that at the end enormous doses are given with the same effect as minute doses at the beginning. This should be our aim in autotoxic disease. When large doses have been reached treatment is no longer hindered by the occurrence of some amount of autoinoculation; at the same time the patient is rendered tolerant of the poisons issuing from his focus of disease.

In cattle, as we saw, a single dose will produce considerable tolerance; in man a regular sequence is needed to achieve this result. If, instead, large and irregularly-spaced doses are given, tuberculin poisoning and increased sensitiveness generally result, and this is what has commonly happened in autotoxic disease. To interrupt the vicious circle absolute rest is needed, so that autoinoculation is reduced to its lowest point. When this is done we find that phthisis patients divide themselves roughly into the following three categories:

A Classification of Phthisis.

1. Those who have symptoms of autoinoculation even at rest.
2. Those who only get such symptoms on exertion.
3. Those in whom no symptoms are produced by full work.

To consider the last two categories first, we may say that Group 2 is amenable to tuberculin treatment, whether applied subcutaneously or by the exploitation of autoinoculation on similar lines, as by graduated labour. It is obvious that subcutaneous tuberculin is more easily controlled than autotuberculin, and it has besides many other points in its favour. During its administration autoinoculation must be kept at a minimum till large doses are reached.

The patients in Group 3 are mostly on the road to cure, and their danger lies in the fact that, just as in localized tuberculosis, their lesion may not suffice to keep them supplied with tuberculin. On this account a course of tuberculin from outside is valuable, and can be followed up by large doses at longer intervals over a considerable period.

When we turn to Group 1 we find a much more difficult subject for consideration. A large number in this group will be beyond the reach of any but symptomatic treatment; many will be cases with marked secondary infection where tuberculin if it is used must be employed in extremely minute dosage and with great caution; some will be acute cases in which tuberculin is worse than useless. The first endeavour in cases of this group must be to bring them as near as possible to Group 2 by all the means we have of checking autoinoculation in phthisis. "Typhoid" rest must be enforced, talking and excitement must be avoided, and visitors kept at a distance; cough must be reduced to a minimum. By these means many cases may be coaxed into Group 2, but if fever does not give way to these methods, tuberculin, preferably T.R. or B.E., may be tried in doses one-tenth or one-hundredth of those with which a course is usually commenced. This measure is closely reminiscent of the minute dose recommended by Wright to put an end to a prolonged negative phase, and it is not infrequently successful. If this fails, a larger dose may be given experimentally, since sometimes a smart reaction is the turning point in these feverish cases. This is not done altogether without risk, but this must be put against the chance of doing much good, and the responsibility is often worth taking.

It will thus be seen that the power of treating patients in Group 1 with tuberculin depends upon our power of bringing them into or near to Group 2, but there will always remain certain cases of advanced but chronic disease where tuberculin tolerance can be set up with advantage although cure is no longer possible. By this means comfort may be promoted and the patient to some extent protected against the symptoms of his disease, even though this must in the end overcome him.

Practical Application.

Consideration having been given to the theoretical side of tuberculin administration in autotoxic disease, we may turn shortly to the practical side.

Since the reactivity of patients varies enormously according to their sensitiveness and how far this is covered by tolerance, it is well to begin with a dose so low that it is certain to be ineffective. Actual dosage I shall not mention here, since I have long discarded the standards usually adopted and measure my tuberculin in cubic millimetres of original solution; and though this is the best and simplest of all methods, the doses in a new standard would be difficult to grasp in a lecture. Having begun with this small dose, it may be very rapidly raised till some effect is noted. This must be looked for in a local reaction, or, failing this in some slight general effect, such as a flattening of the temperature, or a slight rise, or slight symptoms in the patient. Having reached this point, the doses must be raised more gradually, and for the graduation of dosage nothing is more suitable than a geometrical progression such as that supplied by Lawrason Brown in Klebs's *Textbook of Tuberculosis*. By this means risk of large reactions is reduced to a minimum, and yet, with skilful adjustment, the dose may be kept sufficiently near the reacting point to efficiently call forth an immunizing response, the main points of which we have already laid down as the slight focal hyperaemia and the stimulation of antibody formation. It is unlikely that fever reactions will be altogether avoided, and this brings us to a parting of the ways among various exponents of the art of tuberculin administration. There are, as you know, certain people who ignore reactions, and, in their struggle to establish tolerance to large doses, will allow the patient to react violently again and again. Those who have treated localized tuberculosis, where the foci of disease are under the eye, cannot look on this method with favour. They know how caseous material will soften and discharge itself under large focal reactions, and though such a process in the lung may in certain cases be inevitable and lead to no harm, in other cases this is far from being the case.

By avoiding such large reactions we are putting possible danger on one side. By allowing mild reactions occasionally, and keeping the dose near the reacting point we are fulfilling those conditions which experience has taught us to rely on in the treatment of visible lesions. In this way the whole course of treatment is directed towards the healing of the tuberculous areas, and tolerance is but a valuable by-product of the tuberculin administration. This may be called the method of utilizing reactions. A third method in the administration of tuberculin aims at the avoidance of all reactions, and has not much to recommend it unless its safety.

The consideration of the method of pushing the dosage through reactions, with the aim of rapidly reaching tolerance to large doses, tempts me to the question of the value of such tolerance. Is there sufficient evidence of its value to justify us in making it an aim? If we turn to animal experiment for a moment we find that tuberculous disease protects against further infection with the tubercle bacillus. Experiments have been done on cattle, guinea-pigs, and, more recently, apes, which show that if virulent bacilli are injected into a healthy animal, no symptoms follow immediately, but after an interval symptoms of tuberculosis appear, and the animal dies. If similar injections are given to a tuberculous animal, on the other hand, a violent "reaction" immediately follows, but the animal shows no fresh tuberculous disease. Here we find that sensitiveness to tubercle products (not tolerance) is associated with protection against fresh infection. We might, therefore, fear that by producing tolerance we were removing a valuable safeguard against the further spread of disease.

We are, it is true, removing from the patient, for a time, the power of autoinoculating himself, and this might be a danger where tuberculin was withheld. It is, however, highly unlikely that tolerance removes in any way the power of the tissues of the tuberculous to deal with the tubercle bacillus. More probably the injected tuberculin is "activated" as before, and tolerance only protects the tissues, the nervous system, and focus of disease, from the toxic effect which follows. This may be by the production of some such body as the "antituberculin" of Wassermann, which is shown to increase under tuberculin administration on the intensive system. If this is the case the condition underlying tuberculous sensitiveness is not removed, but its effects are mitigated.

On the other hand, there is no reason to suppose that tolerance adds anything to immunity against further disease, and for this reason the common use of the word "immunity" where tolerance is meant is greatly to be deprecated. All that tolerance does—and this is no small advantage, is to free the patient from those symptoms of autotuberculin poisoning which were undermining his health, and from dangerous focal reactions, which were spreading the disease. At the same time it enables us, as we have seen, to treat autotoxic disease with doses of tuberculin so large as not to be unduly interfered with by autoinoculation. The value of tolerance depends, then, on the need of it in any particular case, and not in all cases of phthisis is tolerance to large doses required or even advisable. The need, on the other hand, of obtaining repeated response to tuberculin, in the form of mild focal reaction and antibody stimulation, is common to all varieties of tuberculosis. This appears to be Nature's method of cure, and if it is followed on rational lines, and the needs of each individual case carefully studied, it will be found that we have in tuberculin, and the control of autotuberculin, all or nearly all that we need for the cure of tuberculosis.

At the end I must apologize that I have tried to cover an impossibly wide field in this lecture. Its title was hurriedly supplied many months ago, and I did not realize at the moment to how big a business I was committing myself.

A THIRD SERIES OF TWENTY CASES OF PULMONARY TUBERCULOSIS TREATED BY CONTINUOUS ANTISEPTIC INHALATION.

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In a paper read before the Therapeutical Section of the Royal Society of Medicine on November 2nd, 1909, and published in the *Proceedings* of that Society, and also in the British Medical Journal of December 11th, 1909, I advocated the treatment of incipient and early pulmonary tuberculosis by means of continuous antiseptic inhalation, and narrated 30 cases in which it had been employed with success. In a second paper, printed in the *Lancet* of November 19th, 1910, I related 20 additional cases similarly treated; some of these were advanced or complicated cases. I desire now to record a third series of 20 cases, making a total of 70 cases treated by the method of which full details were given in my first paper.

Case 51.

A patient, aged 26, a draper's assistant, was sent to me by Case 3, July 29th, 1910. His sister died seven years ago from phthisis at the age of 23 years after eight months' illness. He had suffered for eighteen months from repeated "colds" and frequent cough, with occasional slight haemoptysis. In March, 1909, he entered a sanatorium and remained in it twelve weeks (weight on admission 10 st. 1 lb.—it rose to 10 st. 12 lb., but fell again to 10 st. 8½ lb.). Since June 20th, 1909, he had been at work, and had again "caught cold." His cough and sputum were as troublesome as before he entered the sanatorium, and his weight was only 9 st. 12 lb. Cough was frequent, short, and loose—he expectorated into a flask. He looked wasted, worn, and ill. All the characteristic dull areas of pulmonary tuberculosis (as described in my first paper) were present, and those at the left upper and lower apices were specially large. Over the whole left upper lobe in front and at both lower apices there was marked crepitus on inspiration, and very defective air entry at the right upper apex.

He was advised to remain in bed for two weeks and practise continuous antiseptic inhalation in the method and with all the details mentioned in my first paper. I saw him a second time on August 15th, 1910; he had then lost another pound, the weight having fallen to 9 st. 11 lb. But his cough was less troublesome, his sputum less profuse, his dull areas distinctly smaller, and the pulmonary crepitant sounds were much diminished.

He persevered with the treatment, and on September 26th, 1910, was much better, felt "quite a different man." Cough was "very much better," and sputum "very much less." His evening temperature was still about 99.4° F. morning 97.8° F.). His weight was still 9 st. 11 lb., but he felt very much stronger, and no longer fatigued by walking. "Felt as if he would not recover at the last visit, but now feels that he is getting well." The physical signs showed an increased improvement. Had not been able to wear his inhaler at night. He spent the next four months at Southbourne, wearing his inhaler about eight

hours out of the twenty-four, but the weather was unfavourable and he had uncomfortable lodgings. When I saw him again (February 23rd, 1910) he had lost 4 lb., but the pulmonary signs were no worse, and he had hardly any cough. During the next month he gained 2½ lb., but after this there was a steady loss. Of late he had used his inhaler only five hours daily. He was urged to remain in bed for a fortnight and inhale continuously day and night. Some temporary improvement followed. In August he was admitted into Ventnor Hospital. Dr. Robertson, of Ventnor, has kindly informed me that he "died from tuberculous meningitis on September 1st, 1911, although he had gained 5 lb. up to the onset of cerebral symptoms, and in other respects was doing well."

This patient's personal and family history were extremely unfavourable, and the treatment by inhalation was imperfectly carried out. Yet he obtained very considerable relief.

Case 52.

A young man of 25, whose pulmonary symptoms had existed for two years before I first examined him on August 18th, 1910, and who had been in a sanatorium for eight and a half months (February–October, 1909). During the first five months of his stay in the sanatorium he gained no weight, but in the last three and a half months his weight rose from 11 st. 7 lb. to 12 st. 6 lb. Since his discharge he had been living in an open-air shelter at the seaside. He came to me on August 18th, 1910, on account of a "feverish cold," renewal of cough, and marked wasting. His weight was 11 st. 6½ lb.—½ lb. less than when he entered the sanatorium. He was found to have two cavities in the upper lobe of the left lung, and extensive signs elsewhere. Treatment by persistent antiseptic inhalation was advised, but it was imperfectly carried out. He objected to the inhaler at night, and, though he used it all day for twelve days, soon lessened the period of use to six hours, and finally to three hours. At his second visit on September 27th he felt better, and the physical signs showed some improvement, but he had lost another ½ lb., his weight now being only 11 st. 6 lb. He was strongly urged to wear the inhaler persistently, day and night, and was warned of the danger of septic infection of his pulmonary cavities. He acted on this advice to the extent of about eight hours daily, that is, for only about one-third of the time advised. Yet even with this imperfect use of the method he began at once to improve, and gained weight steadily. From 11 st. 6 lb. on September 27th, 1910, it rose persistently to 12 st. 6 lb. on March 8th, 1911. Thus, under treatment by antiseptic inhalation imperfectly carried out, he gained 14 lb. in five and a half months—a larger amount than his previous gain in eight and a half months in a sanatorium. The physical signs also steadily improved, and his evening temperature was normal. Encouraged by this improvement, he reduced the period of inhalation to only six hours daily. In July he caught "fresh colds," and the intense heat of this summer tried him much, the temperature in his outdoor shelter on one occasion rising to 100° F. He lost weight rapidly, and when I saw him again on September 21st his weight was only 11 st. 7 lb., and there was evidence of extension of the disease in his lungs. He was advised to go to bed for a fortnight and to practise continuous inhalation (day and night). He did as advised, and when last seen, on November 22nd, 1911, looked and felt much better, and had gained 4 lb. in weight. His physical signs had also again improved quite definitely.

In this case also the treatment has been imperfectly carried out, yet the benefit derived from it has been unmistakable.

Case 53.

A patient of Dr. Bousfield of Hornsey Lane, a clerk in an insurance office, recommended by Mr. A. (Case 25 of my first paper), who under treatment by continuous antiseptic inhalation for five months in 1909 made a complete recovery (including the obliteration of a cavity), and who has since done his full work for two years.

The patient was brought by Dr. Bousfield on September 24th, 1910, some tubercle bacilli having been detected in his sputum. The dull areas in his lungs were typical and extensive, but auscultatory evidence was almost absent; there was defective air entry over the dull areas, but no crepitant sound, no prolonged expiration, and no audible whisper over the front of the chest, and only the slightest crepitant sound at one spot in the left lung posteriorly.

Under treatment by continuous antiseptic inhalation this patient made a rapid recovery. Dr. Bousfield brought him to me on October 28th, 1910, and again on December 7th. On each occasion there had been a gain in weight, and the dull areas were smaller than at the previous visit. In the ten weeks he had gained 13 lb. After a stay at the seaside he went back to work at his office, and in October, 1911, I heard that he had been in full work since June, and that he looked extremely well. In November Dr. Bousfield wrote: "The sputum has been tested three times—in June, September, and last week—and *no tubercle bacilli found*. He has gained over a stone and a half in weight, and is better now than he has been for ten years." In reply to an inquiry Dr. Bousfield kindly sent word that the examinations for tubercle bacilli in the sputum were carried out by the Clinical Research Association, Adelphi, with the appended results:

August, 1910. Tubercle bacilli present.
December, 1910. Tubercle bacilli present.
February, 1911. A small number of tubercle bacilli present.
March, 1911. A few tubercle bacilli present.
June, 1911. No tubercle bacilli.
September, 1911. No tubercle bacilli.
November, 1911. No tubercle bacilli.

Dr. Bousfield also confirms the fact of the "progressive disappearance of the areas of dullness."

Case 54.

A man aged 33, a clerk, sent to me on September 26th, 1910, by the late Dr. Clark of Twickenham. Cough for ten weeks; much yellowish phlegm; no haemoptysis. Weight, 10 st. 6½ lb.; last spring he weighed 11 st. 7 lb. Large dull areas; poor air entry; some crepitant sounds at the upper and lower apices of the left lung; catarrhal sounds posteriorly; some prolonged expiration left apex. He was kept in bed for two weeks with persistent antiseptic inhalation. On October 17th he weighed 10 st. 8½ lb. His dull areas were smaller, and the crepitant sounds less marked. On November 14th he weighed 10st. 10½ lb. Had inhaled for about nineteen hours daily. Still had cough, heartburn, and flatulence, for which a mixture was prescribed. Dull areas still diminishing. On December 7th haemoptysis occurred and he brought up a large quantity of blood, about 2 pints. There was recurrence of haemoptysis next day and again two days later, His weight, which had risen to 10 st. 13 lb. (a gain of 6½ lb.), fell to 10 st. 1 lb. No inhalation was employed for three weeks; but as he began to recover from the effects of the haemoptysis he returned to the practice of continuous inhalation, and he soon began to gain weight rapidly. When I next saw him, on January 9th, 1911, he weighed 10 st. 6 lb. It was found that there had been extension of dullness in the right lung. He was inhaling about seventeen hours daily. From this time there was progressive improvement in his condition and in his physical signs, and the weight increased steadily. On June 7th, 1911, he weighed 11 st. 11½ lb., a total gain of 19 lb. The very hot summer tried him much, but when I saw him on September 25th (almost exactly a year since his first visit) he looked remarkably well and felt well. He then weighed 11 st. 8 lb. He was able to do his work.

Case 55.

A schoolmaster, aged 52, sent to me on October 1st, 1910, by Dr. J. J. Edwards of Fulham, suffering from mitral stenosis and from recent pulmonary tuberculosis. At the age of 24 he had rheumatism in his ankles and knees, and was in bed for three weeks; but no subsequent attack. He had had influenza "many times, three times in the last 18 months." He had lost 2 or 3 lb. in weight, his present weight being 8 st. 12½ lb. There was a presystolic murmur and short thrill at the apex of the heart, a loud first sound without any systolic murmur, and no second sound. No epigastric pulsation; no enlargement of liver. No aortic murmur. He had a short cough, and marked dullness in the characteristic positions, with very feeble air entry, and faint crepitant sounds at both lower apices. No prolonged expiration or audible whisper. He was kept in bed for 10 days, with continuous antiseptic inhalation, and afterwards used the inhaler all night and about 12 hours in the daytime. On October 22nd he had gained 5 lb. in the three weeks, and felt that he was "gaining in every way." Cough "altogether gone"—it began to disappear "as soon as he began to wear the inhaler." The dull areas were all smaller, and the entry of air much more free, but slight crepitant sounds were still present. He did not cough at all during this visit. On November 24th he weighed 9 st. 11 lb., a gain of 12½ lb. in eight weeks. Felt very much better. No return of cough or sputum. Was still inhaling about eight hours daily and at night.

Twelve months later (November 27th, 1911) Dr. Edwards reported that this patient seemed to be very well, was doing his work as usual, and had no cough.

Case 56.

A lady who had taken the degree of M.D.Lond., and had worked as a medical missionary in India, where (in November, 1909) she suffered from pleurisy, and lost 2 st. in weight. Her sputum was examined by an expert pathologist, but no tubercle bacilli were found. A well-known physician found no physical signs of disease in her lungs, but by *x* rays an area of disease at the left apex was detected. She was admitted into a sanatorium, and remained for two months, and gained 8 lb. in weight. But her condition again deteriorated, and she was advised to return to the sanatorium. She was, however, sent to me by Dr. Grove of St. Ives, on October 3rd, 1910. Her weight was then 9 st. 5 lb. She had had practically no cough for some months, and she brought up only a very little mucus. Yet she had large dull areas at the apices and elsewhere, especially at both lower apices, with very feeble air entry, definite crepitant sound at both apices on the left side, and faintly heard whisper. She was kept in bed for two weeks and practised continuous antiseptic inhalation as advised in my first paper. On November 4th, 1910, she had gained 4 lb. in weight; all the dull areas were smaller; the air entry was much improved, and the crepitant sounds had nearly disappeared. In December she had indigestion and loss of appetite, and lost 4 lb. in weight, yet the physical signs in her lungs were still improving. The indigestion gradually disappeared, and on February 4th, 1911, she weighed 9 st. 13 lb. The dull areas were now quite small, and there was no crepitant sound, though the air entry was not yet normal. On March 6th, 1911, she wrote, "I am *very* well, just rejoicing in a new influx of life and energy, all the more welcome after the long months of lassitude and depression. I have no cough, and only once or twice a week a trace of mucoid expectoration." She was still inhaling about four hours daily and at night.

On November 17th, 1911, she wrote that she had had no chest symptoms of any kind since her last visit, and had lived an active life, though there was some dyspepsia, and her weight was less that when I last saw her.

She had employed the method of continuous antiseptic inhalation in the case of a patient under her care, with regard to whom a medical man had given a very gloomy prognosis, and who was thought to be "going downhill fast." This patient used the method of antiseptic inhalation for two months, and improved greatly. She then went to live on Dartmoor. She was seen again six months later, and appeared to be very well.

Case 57.

A man, aged 23, a friend of Case 23, and a patient of Dr. K. C. Mackenzie of Caerphilly, South Wales. His illness began with haemoptysis in March, 1910. In April he was sent to a sanatorium, and remained in it for three months; during his stay his weight rose from 9 st. 7 lb. to 10 st. 7 lb. In October a second haemoptysis occurred, with slight pain in the right lung. I saw him first on November 10th, 1910; he then weighed 10 st. 2 lb. The dull areas in his lungs were rather large, especially at the lower apices; air entry very defective; some prolonged expiration, crepitant sound, and audible whisper at the right upper apex, and crepitant sounds at the right lower apex. Teeth carious; nasal passages compressed and obstructed. He was advised to use continuous antiseptic inhalation, to give up smoking, and to spray the nose with a cocaine-eucalyptus-parolein spray. On December 15th, 1910, having carried out these instructions, he stated that he had no cough and that his rectal temperature was only 98.4°. He had gained 9 lb. in weight (10 st. 11 lb.) in the five weeks; all the dull areas were markedly smaller, and the only auscultatory signs were harsh inspiration and slight crepitus at the right upper apex, with slight crepitus also at the lower apex. In January, 1911, he had an attack of vomiting and diarrhoea lasting three days—apparently a food poisoning, as his father had similar symptoms. It was therefore not surprising that on February 2nd, 1911, he had lost 2 lb. in weight; yet in spite of this his physical signs, both by percussion and by auscultation, were better than at the last visit. He was now inhaling about six hours daily and at night. On May 10th, 1911, though in lighter clothes, he weighed 10 st. 9½ lb.; the dull areas were smaller than in February, and the only auscultatory sign was slight bronchial breathing, without any crepitant sound or bronchophony, in the second right interspace. The sputum had been examined about a month previously. The report stated that there were "still some bacilli, but much fewer than before."

This patient lives at Cardiff and I have not seen him again, but I regret to hear that in June he had repeated haemoptysis and that his present condition is causing anxiety to his friends.

Case 58.

A young man of 19, brought by Dr. Ashton of Battersea, December 29th, 1910, on account of a cough which had lasted for three months, and occasional night sweats. Weight, 8 st. 1½ lb. He had a loose cough, with typical dull areas of moderate size, some prolonged expiration, with slight bronchophony and audible whisper at the right upper apex, and some crepitant sounds (still audible after a cough) at both upper apices. He was kept in bed for two weeks and practised continuous antiseptic inhalation. On January 27th, 1911, his weight was 8 st. 3 lb., his cough was "much better," and sputum scanty. The dull areas were all smaller, the prolonged expiration and bronchophony had vanished, and only slight crepitant sounds remained. He was now permitted to take an hour's walk each morning, but instead of limiting himself to one hour's exercise, he walked for four hours daily! The consequence was a distinct relapse, the temperature rose to 100°, and on February 24th he was found to have lost 1 lb.; all his dull areas were larger, and some interrupted respiration could be heard at his left apex. He was sent to bed again for two weeks, and made to inhale without intermission. On March 24th he had regained the lost pound (8 st. 3 lb.), and the physical signs had again improved. After this he used the inhaler every night, but very little during the day. His improvement continued, and in June he resumed his work. I examined him again on September 27th, 1911; he looked and felt very well. His weight was still 8 st. 3 lb. His physical signs were nearly normal.

In January, 1912, he was still quite well.

Case 59.

A clerk of works, aged 44, sent to me by Dr. Mowll of Surbiton, February 10th, 1911, on account of slight haemoptysis three weeks ago, repeated a week ago. He had had a slight hacking cough for a few days only. There was some complaint of indigestion, with flatulence and palpitation. He had been costive for some years, and had had piles. His weight was 9 st. 7 lb. His heart was normal. His muscular system was well developed (the result of a six months' course of physical exercises).

Dull areas were found in his lungs, in the positions characteristic of a tuberculous infection, the largest being that at the right lower apex. At this region a slight crepitant sound, possibly frictional, could be heard, and he complained of slight pain in the region of the right nipple on taking a deep inspiration. The only other auscultatory sign was a feebleness of air entry over the apical regions. Medicine was prescribed for his dyspepsia and constipation; he was confined to bed for a week, and advised to practise continuous antiseptic inhalation.

I saw him a second time on March 17th. His weight was 10 st. 4½ lb.; in the five weeks he had gained 11¼ lb. All the dull areas were smaller: no rub or crepitant sound could be heard anywhere. There was no pain on breathing, and the air entry was more free. He had been back at work for two weeks, using the inhaler in his office whenever possible. He continued to improve till June, when in the very hot weather he felt faint and had slight haemoptysis. He came to me a third time on October 19th, 1911, his weight was then 10 st. 2¾ lb.; he had no cough, but the physical signs in his lungs showed a slight increase. He was sent to bed for ten days, and practised continuous antiseptic inhalation once more. On November 23rd, 1911, he was found to have gained 2 lb., and thus regained his normal weight of 10 st. 4¾ lb. There was no sputum and practically no cough. His dull areas had diminished in size, and the only auscultatory sign was a defect of air entry over these areas.

Case 60.

A schoolmistress, aged 29, sent by Dr. Muir of Burdett Road, February 11th, 1911. Indigestion for a year, frequent "colds," and "influenza" three weeks ago. No haemoptysis. No cough, but "phlegm at back of throat." Dull areas, fairly large, were found in all the positions characteristic of a tuberculous infection; the largest were at the right upper and lower apices. The air entry was extremely defective in these positions, and some crepitant sound could be heard at the right lower apex (but nowhere else). No prolonged expiration. Weight 7 st. 4½ lb. (last summer it was 7 st. 6 lb.). She was sent to bed for ten days, and practised continuous antiseptic inhalation. A tonic mixture was prescribed; milk and malted milk (as in all these cases) was taken four times daily. On March 4th, 1911, she had gained 4 lb. in the three weeks, felt and looked much better. The dull areas were all smaller, the air entry was distinctly improved though still defective, and the crepitant sounds had nearly disappeared. On April 1st she had gained 2 lb. more (7 st. 10¾ lb.), and further improvement in the physical signs was recorded. She was now permitted to return to her work as a school teacher. On June 3rd she weighed rather less (7 st. 8 lb.), but she felt quite well and had done her full work for two months. The physical signs were now extremely slight. On September 30th, 1911, she appeared to be quite well and had done her full work. She still practised inhalation at night.

Case 61.

A district nurse, aged 27, a patient of Dr. Adair of Belfast. "Pneumonia" two years ago. At work in England eighteen months. Frequent "colds"; pleurisy two weeks before I first saw her on February 19th, 1911. Weight 8 st. 9 lb. (had been 9 st. last Christmas). Typical dull areas, of which the largest were at her right apex; very defective air entry; catarrhal double crepitus at both upper and at the right lower apices; whisper faintly audible, but no prolonged expiration. She looked ill and had a frequent short cough. She obtained leave of absence for three months, went back to her home in Belfast, stayed in bed for three weeks, and practised continuous antiseptic inhalation for a month, after which she gradually lessened the time of inhalation. The cough ceased after about two months. She came to me a second time on June 8th, 1911. She looked and felt better; all her dull areas were much smaller, the air entry was good everywhere, and no crepitant sound was audible. Only at the right apex posteriorly there was slight prolongation of expiration and slight bronchophony. She was permitted to return to her work as a district nurse. I saw her for the third time on October 13th, 1911. During all this hot and most trying summer she had worked very hard, and during some weeks had actually done double duty. Her weight was now 8 st. 12½ lb. (a gain of 3¾ lb.). She felt perfectly well. No morbid sounds could be detected in her lungs, and all the dull areas were now very small. She was still inhaling for two hours daily and at night.

Case 62.

A young man, aged 19, seen with Dr. Schaub of Harlesden, February 20th, 1911. He had been well until quite recently, but had suffered from "a cold" for two or three weeks. Dr. Schaub examined his sputum four days ago, and found "*tubercle bacilli in good number*," and a second specimen two days ago was "*crowded with tubercle bacilli*." The patient looked depressed, and had a slight frequent short cough. Weight, 11 st. 2½ lb. Typical dull areas in his lungs, the largest being at the right upper and lower apices. Poor air entry and some crepitant sound at all four apices, whisper faintly audible at the right apex; no prolonged expiration. He was advised to remain in bed for ten days, and to practise continuous antiseptic inhalation.

I saw him a second time on March 13th, 1911; the weight was then 11 st 7½ lb., a gain of 5 lb. in the three weeks. He felt "quite well," and wished to be allowed to play football! The cough was much lessened in three days after beginning the inhalation. There was now cough only in the early morning, and very little sputum. Dr. Schaub examined this for the third time three days ago, and had "difficulty in finding bacilli." The dull areas were all smaller, the air entry more free though not yet normal, and the crepitant sounds were much diminished. He was advised to continue the persistent inhalation, allowing an interval of two hours every morning. A month later (April 11th, 1911) Dr. Schaub reported that there had been no sputum for a week, and his evening temperature was normal. The dull areas were less than at the last visit; no crepitant sound could be heard; there was a little prolongation of the expiration at the right apex only.

On May 16th, 1911, he stated that he had continued the inhalation six hours daily and at night, and that he had had no cough and no sputum for a month. He looked remarkably well, and had gained 2 lb. in weight (11 st. 9½ lb.), a total

gain of 7 lb. The dull areas were now all very small, and no morbid sounds were audible.

On December 3rd, 1911, Dr. Schaub reported that this patient had gone on well, that he had been at work for a month, and that he was keeping up his weight. He still wore the inhaler at night.

On January 16th, 1912, he was still quite well, and had no cough. He had been in full work regularly for three months.

Case 63.

A girl, aged 13, seen with Dr. Hickley of South Lambeth Road, February 21st, 1911. Out of health two months, abdominal discomfort, cough, and some pyrexia (100° F.) for a few days. She was a pale, thin girl, with a pulse-rate of 140 and respiration-rate of 36. The abdomen was swollen and rather tender; obvious ascites was present, but no lumps or bands could be felt. The lungs showed dull areas in the positions characteristic of tuberculous disease, the largest of them situated at the right upper and lower apices. There was defective air entry, and some slight crepitant sound.

In view of the general condition and of the implication of both thorax and abdomen, a very unfavourable prognosis was given. She was kept at rest in bed, and fed on milk with malted milk every three hours. The windows were kept open, and she wore constantly a Yeo's inhaler, using the antiseptic solution described in my first paper.

Three weeks later Dr. Hickley reported that the child liked her inhaler so much that "she will not be parted from it"; that her cough was better, and the circumference of the abdomen a little less. He detected a lump in the lumbar region. There had been some diarrhoea, relieved by medicine.

I saw her a second time with Dr. Hickley on April 11th, 1911. There had been no cough for a long time, and the temperature was now always normal or subnormal. All the dull areas in the lungs were much smaller. The circumference of the abdomen was 1½ in. less than in February, and no ascitic fluid could be detected. There was a resistant region in the abdomen to the left of the umbilicus, and some enlarged glands in the right iliac fossa. The child was very thin; she had refused to take the milk and malted milk. She promised to do better in this respect, and the parents were advised to insist on her taking this nourishment regularly. The promise was carried out, and Dr. Hickley informs me that she improved very much. Three months later she was so much better that she was able to go to stay with friends in Wales. When she left London in July Dr. Hickley could find no evidence of disease in her lungs, and the abdominal lump was much smaller. But a relapse must have occurred before long, for she died in September. Possibly this relapse may have been due to exhaustion caused by the great heat of last summer, which has caused other tuberculous cases under observation to deteriorate. Thus the gloomy prognosis given at first was justified; yet the temporary improvement while under treatment by continuous antiseptic inhalation was most striking.

Case 64.

A schoolmistress, aged 45, brought by Dr. Chesters of Bromley, February 22nd, 1911. Cough for about a month; no haemoptysis; slight indigestion; sleep disturbed by cough. Temperature 99° to 100°; pulse 96; weight 8 st. 12 lb. Dull areas in both lungs, in the positions characteristic of pulmonary tuberculosis, the largest being at the right upper and lower apices. There was deficient air entry, a little prolongation of expiration, and slight bronchophony at the right upper apex, and slight crepitant sounds at both lower apices. She was advised to remain in bed for ten days, and to practise continuous antiseptic inhalation.

On March 12th Dr. Chesters telephoned: "She is doing splendidly." Three days later he brought her to me again. Her weight was then 9 st. 4 lb., a gain of 6 lb. in three weeks. She had not coughed since the second day of her use of the inhaler. Now no sputum. Temperature normal for the last week. All the dull areas were distinctly smaller, the air entry was more free, and the crepitant sounds had almost entirely disappeared.

I saw her a third time on April 11th, 1911. The temperature had been normal since the last visit. There was no cough and no sputum. The weight was still 9 st. 4 lb. The dull areas were smaller than in March, and the auscultatory signs were nearly normal. In December, 1911, Dr. Chesters reported that she was in excellent health, in spite of the trying summer and of extra work and some anxieties. Her weight had risen to 9 st. 7 lb.

Case 65.

A clerk, aged 22, sent by Dr. Edwards of Fulham, March 2nd, 1911. Pain on breathing from time to time for several years. Occasional cough, with some phlegm; no haemoptysis; slight dyspepsia. Dr. Edwards had examined the sputum, but found no bacilli. The patient was anaemic. His weight was 9 st. 9½ lb.; eight months ago it was 9 st. 11 lb. Dull areas were found in all the positions characteristic of pulmonary tuberculosis, the largest being at the left upper and lower apices. There was much defect of air entry, and a little crepitant sound at both upper apices in front. Posteriorly, at the left upper apex the inspiration was somewhat harsh, and the expiration was slightly prolonged; at the three other apices hardly any entry of air could be heard. He was kept in bed for ten days, and practised continuous antiseptic inhalation. He was forbidden to smoke. An alkaline tonic mixture was given before meals.

On March 23rd, 1911, his weight was 9 st. 12½ lb., a gain of 3 lb. in three weeks; he felt and looked better, his cough had disappeared, dyspepsia much less, dull areas smaller, and air entry much more free. Still slight crepitant sound at both upper apices. On April 20th, 1911, he felt "very well indeed," and his weight was 9 st. 13 lb. Iron was prescribed for his anaemia, and he was permitted to go back to work. On May 30th, 1911, he was still very well, though he had worked in a lawyer's office for four hours daily. He had continued the inhalation six hours daily, and at night. On September 18th, 1911, he had worked from 10 a.m. to 3 p.m. regularly since July, except during a three weeks' holiday. In spite of the trying heat he had remained very well. The dull areas were now small, the entry of air satisfactory, and morbid sounds on auscultation almost absent. He was advised to use his inhaler at night for a further period of six months.

Case 66.

A boy of 17, seen at his home in Battersea with Dr. Ashton, March 12th, 1911. Very bad cough since November, and some cough since October. No haemoptysis. Some sputum. Has grown thinner lately. Evening temperature 99.5° F. Dull areas were found at all four apices; the air entry was defective, and some crepitant sound could be heard above the right nipple. He remained in bed and practised continuous antiseptic inhalation. Six weeks later he was brought to my house by Dr. Ashton, who reported that "the temperature continued at 99.5° F. to 100° F. every evening until two days ago; last evening only 99° F.; in the morning usually 98° F." The patient said that his cough was "ever so much better." His weight was now 9 st. 3½ lb.; before Christmas it was 8 st. 7 lb., and Dr. Ashton stated that he had lost flesh considerably before I saw him in March, so that he appeared to have gained fully a stone in weight during the six weeks of treatment. The dull areas were all smaller. There was now some prolonged expiratory sound at the right upper apex, both in front and behind, but hardly any crepitant sounds. On June 15th, 1911, I saw him again at his own home with Dr. Ashton. He was still inhaling for eight hours daily and at night. There was now practically no cough, and the temperature had not been above the normal for a long time. He looked plump and well. His weight was now 9 st. 5½ lb. The dull areas at his apices were distinctly smaller; no crepitant sounds could be heard, but there was still a little prolonged expiration at the right apex.

In January, 1912, Dr. Ashton informed me that this patient was still doing well.

Case 67.

A lady, aged 26, brought by Dr. Hickley of South Lambeth Road, March 14th, 1911. Had suffered from more or less indigestion for five years, but had coughed only for about a fortnight. The cough kept her awake at night, and there had been some night sweats. Her weight was 9 st. 11½ lb.; in August, 1910, it had been 10 st. 2 lb. The dull areas characteristic of pulmonary tuberculosis were found in her lungs, with defective air entry, and some prolongation of expiration, with very slight crepitant sound, in the right suprascapular fossa only. She was kept in bed for a week, and practised continuous antiseptic inhalation for seven weeks. On May 2nd, 1911, I saw her a second time, when she felt "very much better." The cough "lingered on for a week or two," but there had been no cough for the last three weeks. The appetite was "very good," and she slept well. Her weight had increased by 11½ lb. in seven weeks, and was now 10 st. 9 lb. She looked very well. All the dull areas were smaller, the air entry was more free, and hardly any morbid sound could be detected.

She was instructed to use breathing exercises twice daily, and advised to inhale at night and for six hours daily. On May 31st, 1911, she felt "very well indeed," except for slight indigestion. On July 28th, 1911, her weight was found to be 10 st. 10½ lb.—a total gain of 13 lb. There was no cough at all; no morbid sounds could be heard in her lungs, and the dull areas were all quite small. She was considered to be cured, but was advised to continue the inhalations for four hours daily for a further period.

Case 68.

A lady, aged 22, seen with Dr. Ehrmann of Camden Road, April 3rd, 1911. Well until ten days ago, when she was overtired by a dance lasting till 5 a.m.; two days later there was slight sore throat; three days later her temperature was found to be 100° F.; it was now 101° in the morning and 102° in the evening. Slight cough, but no sputum. On examination of her chest it was found that she had small areas of dullness in all the positions characteristic of an early pulmonary tuberculosis, the largest being at the right upper and lower apices. Auscultatory signs were almost absent. She was directed to remain in bed for a week, and to practise continuous antiseptic inhalation for three weeks. On April 24th, 1911, Dr. Ehrmann brought her to my house; her weight was then 10 st. 8 lb. She had inhaled as directed; the temperature fell to normal in three days, and had not again been above the normal. The cough had gradually lessened; it disappeared three days ago. No sputum. She felt quite well. The dull areas were distinctly smaller; there was good air entry in front, with very slight crepitant sound at the end of inspiration. There was a defective air entry at the right upper apex behind, and very slight crepitant sound at the end of inspiration at the right lower apex; nothing else abnormal. She was advised to continue the persistent inhalation for three weeks longer, except for two hours in the morning and an hour in the afternoon. On May 17th, 1911, her weight was 10 st. 10½ lb., a gain of 2½ lb. She felt quite well. The dull areas were now very small, and the only abnormalities detected by auscultation were slight defect of air entry and the slightest possible crepitus. She was considered to be cured, and advised to practise breathing exercises and still to use her inhaler for three hours daily.

In January, 1912, Dr. Ehrmann kindly informed me that this lady was still quite well and fully able to perform all her usual occupations.

Case 69.

A lady, aged 39, sent by Dr. Edwards of Fulham, May 31st, 1911. Cough in winter time for some years; very subject to "colds going on to bronchitis." For about three years has had asthmatic attacks, which recur about once a month. Since March, 1911, she has had continual cough, with shortness of breath and yellow phlegm, and has lost weight. Anorexia, dyspepsia, flatulence, and disturbed sleep.

Weight 6 st. 9½ lb. On examination of her chest the signs found were not those of a generalized bronchitis: they were limited to the regions affected in early pulmonary tuberculosis. There were rather large areas of dullness at the characteristic positions at the four apices and elsewhere; the air-entry at the apices was very defective, and prolonged expiration, bronchophony, and audible whisper were heard at both upper and lower apices on the right side posteriorly. She was kept in bed for two weeks, and practised continuous antiseptic inhalation, and a tonic was prescribed.

On June 28th she had gained a pound in weight, and her condition was slightly improved, but she still suffered from asthma, which disturbed her sleep. A nasal spray of cocaine, eucalyptus, and parolein was therefore prescribed, to be used three times a day, and the continuous antiseptic inhalation was continued. On July 25th she stated that she had been quite free from asthma since she had used the nasal spray; the physical signs in her lungs were decidedly improved. On September 23rd, 1911, she felt and looked better, in spite of the very trying summer; the dull areas were still smaller and the air entry much improved, but there was now distinct evidence of a small (dry) cavity at the right apex posteriorly. She was advised to persevere with the inhalations, and to practise breathing exercises.

On January 9th, 1912, she weighed 6 st. 13½ lb., a gain of four pounds. She was still quite free from asthma and had no cough, though on some mornings she brought up a small quantity of phlegm on waking. She was still using the inhaler at night and for four hours in the daytime. Her dull areas were now very much smaller, and the only morbid sound detected was a slightly prolonged expiration at the right apex posteriorly. She was dismissed as cured, but advised to use the inhaler two to three hours daily for the next six months.

Case 70.

The matron of a convalescent home (formerly a hospital sister) came to me on August 5th, 1911, on account of a general feeling of illness, and occasional night sweats, with loss of weight (5½ lb. during the last month). She had, however, no cough at all, and no pain in the chest. On examination the only sign of disease that could be discovered was the existence of small dull areas in both lungs, in the positions characteristic of an incipient pulmonary tuberculosis, and very slight catarrhal sound at both apices in front. The signs might easily have been overlooked altogether.

She was unable to begin a course of treatment until a week later, when arrangements had been made to release her from duty. During this week there was a further loss of weight to the amount of 2 lb. But during the first week of treatment (in bed) by continuous antiseptic inhalation she regained these 2 lb. and in the following week gained 2½ lb. more. On August 24th, 1911, she wrote: "Already life is so much more worth living, and that excessively tired feeling has almost vanished. I can hardly believe that it is only three weeks since I felt such an absolute wreck." On September 1st, 1911, she wrote: "I gained another 2¼ lb. this week—that makes 4¾ lb. My temperature is much more steady; at first it was generally 96.4° in the morning and 99° at night. Now it is 97.4°–98° in the morning and 98°–98.2° at night. Also I don't have the night sweats now."

On September 16th, 1911, all her dull areas were found to be smaller, and the catarrhal sounds at the apices had nearly disappeared. There were some digestive difficulties in October, but when these were overcome she again gained weight. Up to the end of this month she had been using the inhaler persistently, except during an hour's exercise each morning. She now reduced the time of inhalation to eight hours in the daytime, and at night; with a further reduction of one hour every fortnight. On December 9th she wrote: "I am still feeling quite well, my weight is quite steady, and I feel equal to anything. I can't understand anybody having a doubt as to the efficacy of the treatment. I wish I could satisfactorily explain how different in every way I feel, and have felt since shortly after taking up the treatment."

On December 29th, 1911, the dull areas were found to be still further lessened and the air entry was good. Only the faintest crepitant sound (probably pleural) was detected at one apex.

On February 1st, 1912, she was found to be quite well, and no morbid sounds could be detected. She has since resumed her duties.

THE fourth Congress of Physio-therapy of French-speaking doctors will be held in Paris at Easter, under the presidency of Dr. Georges Rosenthal. The Vice-Presidents are Drs. Hirschberg, Pierre Kouindjy, and Mesnard, of Paris; Dr. Edgar Cyriax, of London; and Dr. Profanter, of Franzenbad.

ON PEREZ'S SIGN: AND AUDIBLE MOTOR CRACKLES.

WITH SPECIAL REFERENCE TO THE INTRATHORACIC TISSUE SOUNDS ELICITED BY ARTICULAR MOVEMENT IN THEIR RELATION TO THE DIAGNOSIS OF TUBERCULOSIS.

BY

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THE stethoscopic sounds classified by Laënnec are mostly due to the conflict or to the reciprocal movements of fluid and of air, ranging from the capillary "pneumonic crepitations" to the loud gurgling of "crying bowels," or to the "water wheel" churnings of hydro-pneumopericardium. But they also include a long scale of "dry" sounds, either from solid vibrations such as the fine "grazing" or the coarse "new leather creaking" sounds of pericarditis, or the fine and the coarse sounds of pulmonary emphysema or fibrosis; or else from mainly aërial vibrations, like those elicited by pressure in subcutaneous emphysema. Fluid, when unmixed with air, as in the infiltrations of subcutaneous oedema or in the bulk of a serous effusion, has a silencing effect. It might almost be said that fluid, unmixed with air, is "parent of sweet sounds yet mute for ever" but for the loud report of joint dislocation sounds where there is no air conduction but slight moisture only within the joint, and which Dr. Garrod has ingeniously termed a *non lucendo* "articular vacuum sounds." These might perhaps be due to the solid vibrations of some forcible membranous flapping, like the analogous report of the sigmoid valve flap at the moment of its tension.

Perez's sign has done more than anything else for the study of the dry vibration sounds which make up the immense majority of the "tissue-movement sounds," by directing the stethoscope to their observation, although we were already familiar with the "muscular rumble." As it has only recently brought that study into more general use, we are saved the burden of a long bibliography; and any investigator would enjoy the rare opportunity of commanding a comprehensive view of the entire subject at the start. This communication is offered as a brief introduction to that survey.

PEREZ'S SIGN.

Perez's sign consists essentially in the production of sounds audible over the upper thoracic surface on actively or passively moving the arms at the shoulder-joint, and particularly on raising or lowering them. It was originally described by him, in a case of mediastino-pericarditis, as due to intrathoracic sounds elicited by these movements in the upper part of the chest; and it has been referred to in that connexion by Fowler and Godlee,[1] by Frederick Roberts,[2] and also in Gould's *Practitioners' Dictionary*, and in Lippincott's new *Medical Dictionary*. The following description is from Dr. Perez's own pen:

> The original case in which this physical sign was discovered and subsequently described in the BRITISH MEDICAL JOURNAL[3] was commented on very thoroughly by the late Dr. Thomas Harris, of Manchester, and was examined by Sir Richard Douglas Powell, Sir Kingston Fowler, Dr. Wm. Ewart, Dr. Herbert Spencer, and others. The maximum intensity of the loud friction sounds or crackles was over the mid-sternum, although the sounds could also be distinctly heard over both scapular regions. The patient having had for many years attacks of what was considered to be dry pericarditis attended with excruciating, in fact anginal, pain, no reasonable doubt could be entertained that inflammatory adhesions existed, at any rate, in the anterior mediastinum, and that they were probably of a chronic tubercular nature, the patient having had formerly an infiltration of one of the apices of the lungs, which was diagnosed by the late Sir Wm. Gull. The various cardiac murmurs which were heard by some eminent London physicians, but not confirmed by others, point in my mind to extra cardiac murmurs produced by adhesions.

Its Scope in Relation to Articulations.—As regards the interpretation of these stethoscopic sounds, a critical examination of the case led the writer to suggest as an alternative explanation their possibly extrathoracic articular origin—namely, in the joints which were subjected to movement; for I could hear the same sounds when the stethoscope was applied either to the shoulder-joint or to the sterno-clavicular articulation, and also along

the clavicle. As pleximetric conduction along bone and cartilage would operate in both directions from any given spot, this fairly raised a question as to the precise site of the crepitations in this case, and as to their mechanism and significance in possible relation to the joints. In this way it seemed as though the scope of the sign might be further extended to include a study of articular conditions, and a new field opened for auscultation—namely, the stethoscopic auscultation of joints for the investigation of articular movement sounds; my previous experience having been limited to their percussion for the purposes of pulmonary diagnosis. Since then Dr. Archibald Garrod has recently submitted that new subject to a systematic examination, the results of which are given in his important paper *On Auscultation of Joints*.[4]

This is not all, however. The sign possesses a yet wider range. Shoulder girdle conduction is also capable of picking up audible vibrations of extra-articular origin in the vicinity of, or at a distance from the joints, from muscles or membranes in contact with any of the links in that pleximetric chain. This is of practical importance, particularly as any incomplete examination might be misleading as to the localization of the cause either within the chest or at any part of its upper circumference. Additional interest has recently been given to this point by the almost simultaneous publication of papers by Ralph Stockman[5] on *The Clinical Symptoms and Treatment of Chronic Subcutaneous Fibrosis*, and by W. H. Maxwell Telling[6] on *Nodular Fibromyositis*—conditions likely to give rise to the sign, although both authors refer to the employment in their investigations of the method of palpation only.

In this special group the most familiar instances are the more or less obvious vibrations commonly to be felt as well as heard in the scapular regions. They are not unlikely to be due to rubbing and rucking of thickened aponeuroses, or of stiffened or nodulated muscles, although they have not yet been conclusively traced to their precise causation. When of the coarser kind, they are often palpable and unmistakably extrathoracic; but the finer varieties are less easily placed, and are apt to complicate questions of pulmonary diagnosis. Some of them, too, may be of articular origin, as admitted by the latest authority, Miramond de Laroquette, and conducted by the shoulder girdle; but he does not favour another alternative view, which has been prominently advocated in France—that of their connexion with a "subscapular bursa."

The motor crackles which may be elicited by Perez's method, present therefore, as may be gathered from this brief enumeration, considerable variety in kind, in degree, and in possible derivation; they clearly require to be carefully scrutinized as to their genuineness before we proceed to isolate them into groups. On the other hand, it is high time that, with due regard to that clause, the analytical method should be applied to them for the elucidation of the most difficult group in the entire series—the study and identification of those intrathoracic motor crackles which were first introduced to our notice by Perez, and which bear upon the most important of our problems in diagnosis.

The Articular Motor Sounds.

In the study of these sounds Garrod has now led the way to greater thoroughness by supplying the basis for their classification into (*a*) intra-articular sounds proper, (*b*) periarticular, and (*c*) tendons sounds; and by recording his special observations in the first of these groups, which is the most important for differential diagnosis. The most striking intra-articular varieties which he describes are: The familiar "vacuum sounds," produced apart from any disease by sudden forcible movement of the joints, and sometimes at will, and often audible at a distance as loud explosive reports; the synovial "cracklings" of varying size and intensity somewhat analogous to fluid crackles in the lungs; the "attrition" sounds of roughened surface presenting every degree of roughness from the osteoarthritic "scrunch" downwards; the "fibrous" sounds of tension or friction; and other less determinate or mixed types, among which may be mentioned the sounds audible in old or disused joints when worked beyond the range of their habitual movement. Any considerable effusion supersedes sound production and conduction. Tubercular joints are usually silent; and likewise the rheumatoid, in their more acute stage, when the trouble is still chiefly periarticular, although later on synovial crackles may be elicited.

The Subscapular Motor Sounds.

In the direction of the extrathoracic motor crackles a long lead had already been taken by the French school, but in a limited and exclusive field, that of the subscapular sounds. The "craquements et frottements sous-scapulaires" first attracted the attention of surgeons; and one of the latest articles, also of a surgical complexion, is an editorial review of the subject, and in particular of a recent thesis by Marcel Laisney,[7] and of the exhaustive articles by Surgeon-Major Miramond de Laroquette,[8] in Lucas-Championnière's *Journal de Médecine et de Chirurgie Pratiques*.[9] Chauvel's nomenclature describes three varieties: (1) *Froissements*, which are practically physiological; (2) *Frottements*, which are rather louder, but likewise unassociated with pain; and (3) *Craquements*, which are usually more or less painful, and have been compared by Zapharіadès to the noise that a horse makes in chewing its oats. We need not dwell upon the surgical and operative aspects, which are limited to the removal of any scapular or costal exostosis, or of the crepitating bursa if present, or perhaps to a plastic muscular insertion between the thoracic and scapular surfaces. These are unusual and almost exceptional indications. The clinical interest attaching to the subject is now almost exclusively of a medical order, in connexion with the diagnosis of tuberculosis, and it is chiefly to that aspect that the question owes its actuality and its claim to special consideration.

The Question of Tuberculosis.

Professor Poncet, of Lyons,[10] who entertains well-known views as to the frequency of a chronic tubercular inflammation, or *tuberculose inflammatoire*, as the real cause of many cases of arthritis commonly regarded as rheumatic, has advanced the opinion that the main pathological cause of the "subscapular crepitus" is inflammatory tuberculosis of the subscapular cellular tissue, or of a subscapular bursa. Other writers have taken up the idea, and among them Rénon and Moncany have placed on record that these crackles are met with special frequency, nay almost exclusively, among the tuberculous. If we adopt the standpoint that freedom from tuberculosis is rather the exception than the rule among those who are reputed healthy, no strangeness would attach to that statement. Clinicians may, however, feel some hesitation in subscribing to it in a broad practical sense. Happily, they will find ample relief from the anxiety which has been raised on that score in a perusal of Miramond de Laroquette's masterly and exhaustive review of the whole subject, including observations on 824 cases in health and in disease, and 25 *post-mortem* examinations. His trustworthy conclusions are that sufferers from tuberculosis are not more liable than others to this peculiarity, that in a vast majority of instances it is of a purely physiological nature, and that in pathological as well as in normal subjects its mechanism is mainly due to a relative over-action of certain muscular fibres, chiefly those of the upper dentations of the serratus magnus. It is, he states, comparatively rare in children, but occurs in both sexes, at all ages and in all professions. Its pathological incidence is about equal in rheumatism, in tuberculosis, and in the remaining category of all diseases. It cannot, therefore, be regarded as special to any diathesis.

Miramond's views are practically endorsed by E. Pallasse,[11] whose paper contains the latest review of the question as to the tubercular origin of the subscapular sounds, although, as in the other French papers, no reference is made to the more critical anterior auscultation for similar sounds elicited by moving the arms. He cannot admit that the subscapular sounds are ever truly physiological; but he adduces good evidence that their pathology is not always tubercular in the remarkable history of a robust youth of 19, free from all hereditary taint or symptoms of tuberculosis and refractory to its tests, but in whom, for a period of two years, painless subscapular creaking has been so loud as to be audible at a distance of one metre from the chest.

To return to the general question, similar conclusions may be provisionally extended to the wider field covered by the application of Perez's method for the anterior examination and for the general examination of the

thoracic surface, as well as for the study of the intra-thoracic conditions—the latter, however, owing to the possible bony conduction of sounds originating within the chest, present a complicating element of difficulty and of doubt. It is noteworthy that the sign was first described in a case of tuberculosis. Although no general significance attaches to that circumstance, the sphere of its clinical utility seems likely to remain largely identified with a more thorough physical examination of the chest for the diagnosis of tubercular affections of the pulmonary apices and of the mediastinum, in addition to its everyday employment in the diagnosis of rheumatic affections of the scapular and sterno-clavicular articulations and of their ligaments and muscles.

The Practical Value of the Method.

The chief recommendations of the method are its simplicity when conducted with the binaural stethoscope and the amount of information which it is capable of furnishing. By opening up a new field of observation its systematic employment might lead to clinical results the importance of which we cannot foretell. I venture to suggest to clinical inquirers that they make a rule of combining the articular with the upper thoracic examination in all cases yielding any stethoscopic sounds, and of noting the result. The most convenient technique is to firmly steady with one hand the cup of the stethoscope over the front of the head of the humerus, which it fits well, or in dorsal examinations over its side or over the flat acromial surface of the spine of the scapula, whilst the other hand grasps the elbow and imparts to the humerus a full range of strictly passive movements. The sterno-clavicular examination presents no difficulty.

1. *For articular conditions*, as this is by far the finest test that can be applied, the examination should be *de rigueur*. A negative result from auscultation and from manipulations would be the quickest as well as the only conclusive evidence of absolute soundness. Should, however, any articular sounds be heard, let us continue the movement, and simply shift the chestpiece to the supra-clavicular and infraclavicular regions—a matter of a few seconds, and well worth our while if any unexpected sounds should happen to be heard.

2. *For pulmonary and pleural conditions* the indication is obvious. The earliest detection of apical tuberculosis is the question of the day. Our time and trouble must not count; the shadowy indications of radioscopy draw largely upon both, but they are worthless in the absence of the best technical and instrumental advantages, and this is also true of the stethoscope. Meanwhile, should we continue to neglect a whole line of evidence which lies close at hand and needs no technical refinements? In all doubtful cases we should proceed to submit our apical results, whether positive or negative, to the articular test. Perez has taught us that there are lesions (in my experience chiefly pleural, but sometimes pulmonary) which may give sound under the mechanical traction of movement, and not always under that of deep breathing only; and the no less important fact that some of the sounds audible over the apices may be merely conducted from the sterno-clavicular or shoulder joints. There is no choice for us but to take the trouble to apply the necessary differential tests. Without them there can be no strictly conclusive overhauling of the chest.

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A LABORATORY for the investigation of pellagra has been established by the Public Health and Marine Hospital Service in Savannah, Georgia. Dr. C. H. Lavinder is in charge of the work.

THE INFLUENCE OF STRONG, PREVALENT, RAIN-BEARING WINDS ON THE COURSE OF PHTHISIS.

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[*Second Paper.*]

IN a first paper on this subject, recently published,[1] I have shown that strong, prevalent, rain-bearing winds probably exercised a considerable influence on the course of phthisis in the Exmoor portion of Barnstaple Rural District during the forty-five years 1860 to 1904.

I now propose to show, in two other areas in quite different parts of Devonshire, a similar influence of these winds—namely, in the rural district of Okehampton, in Mid-Devon, during the fifty years 1860 to 1909, and in the parishes round Budleigh Salterton, in St. Thomas district of South-East Devon, during the forty-five years 1866 to 1910. Following the plan of my former paper, I have only considered cases under 50, as I find here, just as I did there, that from 50 onwards cases tend to be more chronic. As cases under 10 in these two areas evidently tend to be disproportionately acute, I have also omitted them. So that the cases given died over 10 and under 50.

As I have carefully described elsewhere the rural district of Okehampton,[2] where a most marked contrast was shown to exist in phthisis prevalence between the parishes fully exposed both to west and south-west winds and the parishes sheltered from them both, it is only necessary to recall the facts that most of the parishes are on impervious soils with a very considerable rainfall, and that many of the sheltered, as well as most of the exposed parishes, are more or less open to north-west wind.

Taking the same two groups of parishes that afforded the striking contrast in regard to phthisis prevalence, we obtain the following table:

Name of Parish.	Recorded Duration of Illness.			
	Under 1 Year.	1 to 1½ Years.	2 to 3½ Years.	4 Years and over.
Exposed to both W. and S.W. Winds.				
Highampton	3	1	1	
Beaworthy	5			
Bratton Clovelly	2		1	1
Sourton	2			
Totals	12	1	2	1
Percentages	73 %		18 %	
Sheltered from W. and S.W. Winds.				
Inwardleigh				
Monkokehampton				
Chagford	9	7	5	1
Gidleigh	1			
Throwleigh	5	3	1	
Drewsteignton	7	4	5	
Ashbury				
Totals	22	14	11	1
Percentages	45 %		25 %	

Thus the exposed parishes have a higher proportion of comparatively short cases than the sheltered parishes and a lower proportion of comparatively long cases.

Turning next to the parishes about Budleigh Salterton. These are nowhere so severely wind-swept as the preceding, nor is their rainfall so great; the soils of all are comparatively pervious, and the average inhabitant is

probably a good deal more well-to-do. We get there the following figures:

Name of Parish.	Recorded Duration of Illness.			
	Under 1 Year.	1 to 1½ Years.	2 to 3½ Years.	4 Years and Over.
Exposed to S.W., W., or N.W.				
Otterton (exposed to S.W.) ...	5	1	1	
Littleham (exposed to W., S.W., N.W.)	11	16	12	6
Withycombe Raleigh (exposed to W., S.W., partly N.W.)	8	11	12	2
Lympstone (exposed to W., S.W., partly N.W.)	5	6	5	3
Newton Poppleford (exposed to N.W.)	1	4	1	1
Totals	30	38	31	12
Percentages	27%	61%	39%	
Sheltered from W., S.W., and N.W.				
Budleigh Salterton	6	6	13	4
East Budleigh	5	2	7	4
Collaton Raleigh		1	3	1
Bicton			2	1
Totals	11	9	25	10
Percentages	20%	36%	64%	

Here, again, the exposed parishes have a higher proportion of comparatively short cases than the sheltered parishes and a lower proportion of comparatively long cases.

It will doubtless be objected to these tables that the recorded durations of cases of phthisis cannot be implicitly relied on. To this objection I would reply:

1. That it is very unlikely that the errors in three consecutive areas would all tell in just the same direction; and

2. That there is no reasonable ground for assuming such error as would invalidate these figures.

The much longer durations generally recorded about Budleigh Salterton than in Barnstaple and Okehampton rural districts may perhaps be jointly ascribed to more wealth, less wind, less rain, and more pervious soil. These, however, are matters which only concern us so far as to account for a difference which might otherwise be put down to varying accuracy of record.

Taking these tables together with those published in my former paper, I think a very strong case is established for the view that strong, prevalent, rain-bearing winds exert an influence upon the course, as they certainly do on the prevalence, of phthisis.

My best thanks are due to Dr. Young, of Okehampton, for kindly helping me to obtain the figures for his district.

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[1] BRITISH MEDICAL JOURNAL, February 10th, 1912, i, p. 291. [2] *The Influence of Strong, Prevalent, Rain-bearing Winds on the Prevalence of Phthisis*, 1910.

IN his report for the year 1911 Dr. Waldo, Coroner for the City of London and for Southwark, states that the number of inquests on persons whose death was due to injury by vehicles reached a higher total than in any other year since he has been coroner for these areas. The number was 57, mechanically driven vehicles causing 39 of them, horse-drawn vehicles 18. The Herscher apparatus for preserving bodies by means of formalin has proved of signal service in identification, as well as for the other purposes for which it was installed at the City mortuary some two years ago. A similar apparatus is much needed in Southwark, since the number of drowned and unknown persons landed there is large. There were only four deaths during the administration of anaesthetics, and only one of these occurred at a certain hospital in which in an earlier year as many as eleven such deaths took place.

THE GENESIS OF THE DICROTIC PULSE WAVE.

BY D. W. SAMWAYS, M.D., D.Sc., M.R.C.P.,
MENTONE.

IN Dr. James Mackenzie's *Diseases of the Heart*, edition 1910, he says:

There has been a good deal of discussion concerning the cause of the dicrotic wave. The semilunar valves are so delicately constructed that they readily respond when the pressure on one side rises above that on the other. As soon as the aortic pressure rises above the ventricular the valves close. At the moment this happens the valves are supported by the hard contracted ventricular walls. The withdrawal of the support by the sudden relaxation of these walls will tend to produce a negative pressure wave in the arterial system. But this negative wave is stopped by the sudden stretching of the aortic valves, which, on losing their firm support, have now themselves to bear the resistance of the arterial pressure. This sudden checking of the negative wave starts a second positive wave, which is propagated through the arterial system as the dicrotic wave.

I am very glad to see Dr. Mackenzie advocating the idea of the muscular mass of the ventricle contracting behind the aortic valves and acting as a support to them, because for twenty years I have maintained that the auricles, especially in mitral stenosis, may perform that service for the auriculo-ventricular valves.

I am, however, loth to admit that the aortic valves thus petted, are immediately afterwards so betrayed that they become suddenly stretched sufficiently to start a second positive, or dicrotic, wave. One may take for granted that any theory demanding so great and sudden a strain of these delicate structures is incorrect.

In 1894 I advanced another theory, in my thesis for the degree of M.D. at Cambridge, which I think better explains the mode of production of this wave. I maintained that the dicrotic wave is a ballistic or catapult wave, due to the *longitudinal* recoil of the first part of the aorta, after it has been longitudinally stretched by the contracting heart.

When the ventricle contracts with sufficient force the aortic valves open, and the blood in the aorta and in the ventricle forms one continuous column under pressure. This rigid column occupying the aorta and ventricle presses its foot on the inferior wall of the heart near the apex, and is probably a chief factor in preventing the apex moving upwards when the ventricle contracts. In fact, the arch of the aorta and the lower wall of the ventricle are mutually repelled by the pressure of the blood column lying between them and thrusting them apart.

With a ramrod of blood pushing it down, the apex cannot come up during contraction, and the base has to be drawn down towards it (as shown by the needle experiments of our early physiology days) during ventricular contraction, pulling with it the aorta, which consequently lengthens. The aorta is drawn like the finger of a glove over the blood at the base of the ventricle, the remainder of the ventricular blood being driven through the aortic orifice after it.

As the aortic pressure rises and the outflow from the ventricle decreases, the aortic valves are pushed towards one another by the blood behind them in the aorta, and finally closed. The pressure of the aortic column now falls on the valves, supported temporarily from behind, as Dr. Mackenzie suggests, by the "hard, contracted, ventricular walls."

Something else, however, now happens. The pressure in the aorta near the heart begins to fall, and the longitudinally stretched aortic walls soon begin to recoil to their normal length, just as the circularly stretched walls have begun to return to their normal diameter. And just as the circular recoil drives onward through the arteries the main pulse wave so the longitudinal recoil, which follows closely on it, shoots on a second wave—the dicrotic or ballistic wave. Any one who will examine the first part of the aorta will be amazed at the amount of its longitudinal elasticity (using the word in the vulgar sense), and if it be closed and pumped up it will be seen to lengthen considerably.

It might be objected that the longitudinal and circular recoil of the aorta would combine to generate the main pulse wave. That would only be true if the longitudinal recoil were as powerful, and so could commence simultaneously with the circular. This does not appear to be

the case. The advent of the longitudinal recoil is therefore slightly delayed, and the dicrotic wave, due to the oncome of a diminution in the longitudinal capacity of the first part of the aorta, is superposed on the main wave early in its descent.

The mode of production of this ballistic wave can easily be imitated with a model consisting of rubber tubes and pump representing the circulatory system. If, when the pump is squeezed, it be also pulled to stretch the tube into which its contents flow, and, after squeezing, allowed to yield to the stretched tube in its recoil, one wave is generated by the pump and a second smaller one by the tube in its longitudinal recoil. The whole, properly recorded, exactly resembles the main features of a normal pulse tracing, with the dicrotic wave small or large according to the rapidity of recoil allowed.

A confirmatory experiment I performed on a large dog. After anaesthetizing it, the chest wall and pericardium were opened. A tube introduced into a main artery of the leg allowed the pulse tracings to be recorded graphically. The aortic walls close to the heart were then seized and held by two pairs of forceps, and prevented as far as possible from making any movement in a longitudinal direction. The dicrotic wave, which before was conspicuous, immediately disappeared, and reappeared at once on the tracings when the aorta was set free to perform its longitudinal movements.

I have since had no doubt that the dicrotic wave is to the longitudinal recoil of the first part of the aorta what the main pulse wave is to its circular recoil.

A NOTE ON BLOOD-PRESSURE READINGS IN CASES OF AURICULAR FIBRILLATION.*

BY

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IN examining a radial pulse tracing taken from a case of auricular fibrillation one of the most noticeable characteristics is the inequality of the heights of the systolic primary waves—forcible beats and feeble beats occur in no definite order.

This suggests that the systolic arterial blood pressure is also a varying factor in these cases, and that to assign a single value for the blood-pressure readings in such patients is scarcely justifiable.

A simple method for ascertaining the systolic pressure reading for the various beats is as follows: The armlet band of a blood-pressure apparatus is adjusted on one arm—the right is the more convenient. A wrist splint of a Mackenzie ink polygraph is strapped on over the right radial artery, and another over the left radial, and the corresponding wrist tambours are connected by rubber tubing to the receiving tambours of the polygraph. In this way the two radial tracings are recorded on the one strip of paper. The apparatus is adjusted till the best radial impulse in each is obtained, and so that the swings of the writing pens are approximately equal. The paper is allowed to run through, and the pressure in the armlet band is increased by 5 to 10 mm. at a time, and that pressure noted at which the various beats fail to affect the recording apparatus. Sooner or later, as the armlet pressure is raised, the smallest beats of the pulse on the corresponding arm are lost. The reading of the manometer, at which this occurs, gives the minimal systolic pressure. When all the beats are obstructed, the maximal systolic pressure has been obtained. It is found that with highly irregular hearts there may be a difference in the maximal and minimal readings of 60 mm. Hg. With less irregular hearts—that is, those in which the rate is slower—the difference is not so marked, and in those that are only slightly irregular—as, for example, where the ventricular rate has been markedly retarded by digitalis—the difference may not amount to more than 5 to 10 mm. Hg.

Janeway[1] has previously called attention to the difference in the systolic blood pressure readings in cases of arrhythmia.

The readings taken from 8 patients, all of whom were typical examples of cardiac irregularity due to auricular fibrillation, are given in the following table:

Case.	Blood Pressure Reading of Smallest Beats.	Maximum Blood Pressure Recorded.	Difference in mm. Hg.	Pulse Rate per Minute.
1	150	210	60	56
2	80	100	20	72
3	100	130	30	92
4	95	140	45	74
5	130	140	10	44*
6	115	140	25	84
7	120	140	20	72
8	160	200	40	76

* On digitalis.

This table clearly shows the wide range of blood pressure which an individual case of auricular fibrillation may possess. This variation is of importance, because in the cases in which it occurs single observations of blood pressure, taken in the ordinary manner, possess only a restricted value as an index; the error introduced in continued and comparative observations, where each observation is confined to a reading of the most forcible beats, is also very considerable.

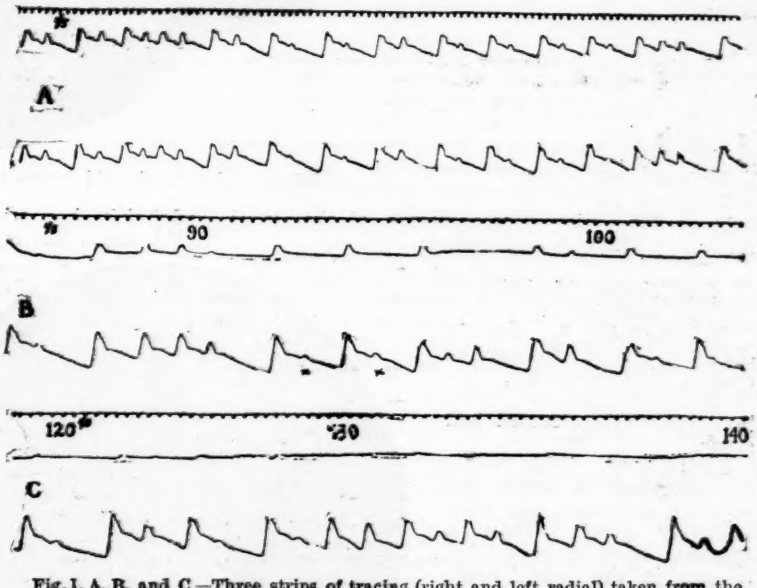

Fig. I, A, B, and C.—Three strips of tracing (right and left radial) taken from the same patient.

A. Before brachial compression; all the beats come through.
B. The smallest beats × × disappear at a pressure between 90 and 100 mm. Hg.
C. The largest beats fail to record at a pressure of 140 mm. Hg.

REFERENCE.

[1] T. C. Janeway, *The Clinical Study of Blood Pressure*, p. 205.

* From the Cardiographic Department, University College Hospital Medical School.

A BEQUEST of £300 has been left to the East Sussex Hospital, Hastings, under the will of the late Mary Jane Day of Bexhill.

CALCAREOUS DEGENERATION OF THE MYOCARDIUM.

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I am inclined to record the following case, for although calcification of the cardiac muscle is by no means an uncommon condition, it is seldom that the process, either in extent or degree, reaches such an advanced stage. Its rapidity of development, as far as could be decided by ordinary clinical criteria, is also unusual.

Case.

A. L., a male patient, aged 39, was admitted to the County Asylum, Whittingham, on February 7th, 1890, in a condition of maniacal excitement with delusions. The acute stage of his attack slowly and steadily subsided, but no definite improvement of his mental condition occurred. He became listless and apathetic, showing little interest and taking no part in the work or amusements of the ward, and ultimately dementia supervened.

Condition on Admission and Course.

On admission no anomaly of heart, lungs, or digestive system was apparent; the urine, of normal specific gravity, was free from albumen and sugar.

Until April, 1910, when he developed a cough, his physical condition had been relatively good. Then a systolic murmur was discovered in the mitral area; his sputum was examined for the tubercle bacillus with a negative result; a trace of albumen was present in the urine.

Subacute bronchitis was present on to May, 1911, when swelling of the feet and legs was noted. This ushered in a slowly advancing and finally a general oedema, in which condition the patient died on January 7th, 1912.

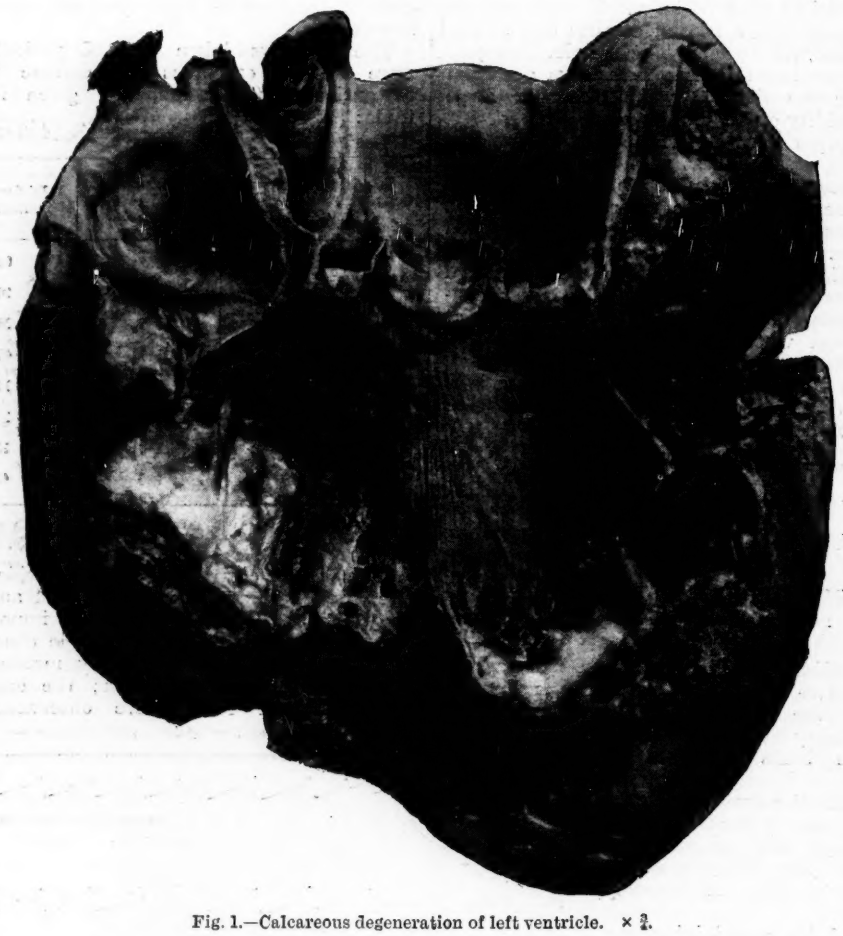


Fig. 1.—Calcareous degeneration of left ventricle. × ⅔.

Necropsy.

Brain.—The venous sinuses were congested, the dura mater thickened, convolutions atrophied, lateral ventricles dilated and filled, ependyma congested. No haemorrhages into brain substance were present, although the basal vessels were atheromatous.

Lungs.—Bronchial mucous membrane irregularly thickened and congested; lower lobe of lungs oedematous.

Stomach and Intestines.—These were congested, but showed no other anomaly.

Liver and Spleen.—Congested and of very firm consistence.

Kidneys.—Congested, slight degree of fibrosis.

Heart.—This organ was large and weighed 450 grams. The aortic and pulmonic valves were competent, although slightly thicker than normal. The mitral orifice was markedly increased in size, the cusps thickened and firm; the tricuspid was affected similarly, but to a less degree.

The left ventricle was greatly dilated and hypertrophied and almost covered in its interior by a calcareous mass, between which and the mitral valve a large thrombus was found. The accompanying photograph shows the extent of the process, from the apex of the cavity almost up to the attached edges of the cusps. On the surface the mass was soft; as it extended towards the apex it became progressively denser, and in its lower part (shown on the right-hand side of the photograph) was of the consistence and had the appearance of bone. The myocardium underneath was fibrous, and the photomicrograph (longitudinal section from the "bony" part towards the apex) indicates that the condition was advancing until the time of death.

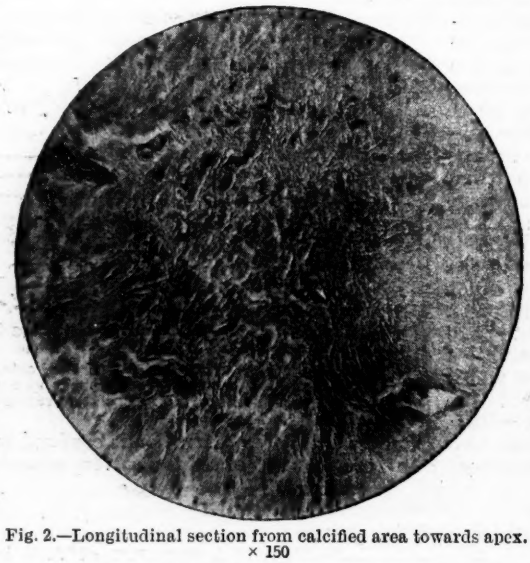


Fig. 2.—Longitudinal section from calcified area towards apex. × 150

The coronary arteries were atheromatous, and sclerotic patches appeared on the aorta.

My thanks are due to Dr. Gemmel for permission to publish this case, and also to Mr. Fann for assistance in preparation of photographs and specimens.

RESULTS OF THE TREATMENT OF SYPHILIS WITH SALVARSAN AT THE ROYAL NAVAL HOSPITAL, HASLAR.

BY

STAFF SURGEON T. B. SHAW, R.N.

SALVARSAN has been used at Haslar since the end of December, 1910. The number of cases treated down to March, 1912, is 340, and as the employment of this new remedy in syphilis is a subject of general interest, it has been thought advisable to publish a short summary of our results.

In the treatment of the first 20 cases an alkaline solution of the drug was administered intramuscularly: twenty-six injections were given in this way, and we were very favourably impressed by the method; the severe pain was well borne by the men, and no evidence of tissue necrosis at the injection site—a sequela described by many workers—occurred in any of our cases.

In the treatment of all our remaining cases the intravenous method has been used; the undoubted superiority of this method over all others has now for some months been generally recognized.

As regards the actual method employed for introducing the salvarsan solution into the vein, we have used at Haslar the injection method as opposed to the infusion method. The apparatus employed is McDonagh's modification of Schreiber's original design, and it has given the greatest satisfaction. It consists essentially of an all glass 20 c.cm. syringe, two-way cannula, and rubber connexions. The special needle supplied with this apparatus has proved invaluable; it is fitted with a small plate, concave underneath, which rests comfortably on the arm when the needle is inserted into the vein. We have never yet found it necessary to expose the vein before introducing the needle.

The cases treated represented examples of syphilis in all its stages—primary, secondary, tertiary, and latent.

At first salvarsan was used in those cases which had proved resistant to mercury and other forms of treatment; the great value of the new drug was soon demonstrated, and gradually its use became more general. For some months now it has almost entirely replaced mercurial injections as the routine treatment of syphilitic patients in hospital. This position it has attained for the following chief reasons:

1. In the majority of cases it clears up syphilitic lesions more rapidly than mercury.
2. Its spirochaeticidal action is greater.
3. Its effect in changing a positive to a negative Wassermann reaction is stronger than that of mercury.
4. Its tonic effect is greater.

Taking into consideration the above facts, which are now almost generally recognized by those who have had experience in the use of salvarsan, we must conclude that its ultimate curative effect on syphilis will also prove to be greater.

The tonic effect of salvarsan has, I think, not been sufficiently emphasized; it has been a marked feature in many of our cases, especially in those already anaemic, and debilitated by the disease or by injudicious mercurial treatment. A few days after an injection the patients report an increased sense of well-being, that they "feel better," and a gain in weight almost invariably follows.

This gain in weight was in many of our cases remarkable. One patient, a petty officer who had contracted syphilis four years previously, was admitted to hospital suffering from extensive ulceration of the soft palate; he had had two years' mercurial treatment; the Wassermann reaction was positive. He was given 0.55 gram salvarsan; in five days the ulceration had healed, and at the end of a week he had gained 8 lb. in weight.

The rapidity with which salvarsan clears up syphilitic lesions was especially seen in:

1. Cases suffering from ulcerative lesions of the tongue, palate, fauces, tonsils, pharynx, and of the mucous membrane of the mouth generally.
2. Cases of so-called malignant syphilis.
3. Cases with marked cachexia and loss in weight.
4. Laryngeal syphilis with loss of voice.
5. Primary syphilis.

It was in cases of early secondary syphilis with rash that the clinical results as regards rapidity of action appeared sometimes to be disappointing, but even here in the majority of cases the action of salvarsan was more rapid than that of mercury.

It may be of interest to record briefly three cases in which mercurial and other treatment had been employed for months (in one of the cases for years) with little or no effect, and in which the beneficial results of salvarsan treatment were especially striking.

CASE I.

A stoker, aged 26, was admitted to hospital on August 12th, 1910, suffering from a very chronic ulceration of the tongue. He had contracted syphilis thirteen months previously, and had had good courses of mercurial treatment. The condition proved most intractable, resisting all treatment. Four months and a half after the date of admission to hospital he received 0.6 gram of salvarsan intramuscularly, and in twelve days the tongue was well.

CASE II.

A stoker, aged 28, was admitted to hospital on September 28th, 1908, suffering from malignant syphilis of the mouth and skin. Syphilis had been contracted two months previously, and he had had one course of seven mercurial injections. Every form of treatment was tried in this case, but with little or no effect on the progress of the disease. In December, 1908, he was invalided, but his condition was so bad that he could not be discharged, and he remained in hospital under treatment for more than two years. In November, 1908, his weight was 147 lb.; in November, 1910, 98 lb. At the end of this time he was a mere skeleton, his body was covered with ulcers, and his tongue, as a result of severe ulceration of the posterior half, was reduced to almost one-third of its original size. The hard palate was perforated, and his speech could not be understood. His left knee and left ankle became affected with the disease early in 1911, and he was practically bedridden. On March 12th, 1911, 0.34 gram salvarsan was given intramuscularly. Improvement was rapid and striking. In a few days the joint symptoms had gone and he was able to walk about. One month after the injection only two of the skin ulcers remained unhealed, and the whole of the mucous membrane of the mouth was clean and healthy. A second injection of 0.35 gram was given two months after the first. When, one month later, he was discharged from hospital one ulcer on the leg only remained unhealed.

CASE III.

A stoker, aged 22, was admitted to hospital on July 5th, 1911, suffering from severe ulceration of the posterior pharyngeal wall, tonsils, and palate. He had contracted syphilis twenty-two months previously, and he had had twenty-eight mercurial injections. The condition had been present two months, the ulceration advancing in spite of treatment, and the uvula and part of the soft palate had been eaten away. On July 6th 0.5 gram salvarsan was given intravenously; in ten days, before a second injection had been given, all the lesions had healed.

Three cases only failed to respond to salvarsan, and these had also proved intractable to mercury and other treatment. Two of these suffered from gummatous ulceration of the skin and subcutaneous tissues; in the third the lesion was leucoplakia, with chronic ulceration of the tongue.

We have had little experience of the use of salvarsan in syphilitic lesions of the nervous system, but, judging from the results of other workers, the field for its use in such cases is not a large one, and, if given at all, it should be exhibited with the greatest care. Two cases only, suffering from early cerebral syphilis, were treated at Haslar, and both showed a marked improvement. Two cases suffering from advanced choroiditis were treated; permanent damage to sight had already resulted and the lesions were progressing. In both cases the progress of the disease was checked by the salvarsan.

Latent Syphilis.

Eight cases received salvarsan treatment. One of these requires special mention because of the interesting sequelae of the injection.

This patient was admitted suffering from chancroid and bubo. He had contracted syphilis ten years previously, and had had two years' mercurial treatment. The Wassermann reaction was positive, and he was most anxious to have the "new treatment." A few days after an injection of 0.5 gram salvarsan he complained of his tongue, which was found to be enlarged; ulceration followed, extending along each border. This was followed by gummatous ulceration of the fauces. The condition cleared up after a second injection.

It is of interest to note that the last syphilitic manifestation from which this patient suffered was "ulceration of the tongue" three years previous to the salvarsan injection.

Primary Syphilis.

The number of cases of primary syphilis treated was thirty-four, and, so far, in none of these have any secondary symptoms developed. Twelve of these received the treatment from three to seven months ago. It is in these early cases of syphilis that the *therapia sterilisans magna* effect of salvarsan is best seen. Already authentic cases of a second infection of syphilis after cure of the primary disease by salvarsan have been reported. In this account of our results at Haslar I am able to report another case of reinfection. The case was as follows:

Reinfection.

The patient was admitted on November 7th, 1911, suffering from a primary chancre of the tongue, with typical syphilitic enlargement of the glands under the jaw. On November 23rd the diagnosis of syphilis was confirmed by the Wassermann reaction which was positive. An injection of 0.5 gram salvarsan was given, followed in seven days by a second injection of 0.55 gram. He was discharged on December 16th. On January 24th he was again admitted to hospital said to be suffering from chancroid. At the base of the glans penis he had a sore, which he stated appeared about eight to ten days after exposure to infection when he was on Christmas leave. The prepuce was much swollen, and the day after admission to hospital the sore could not be exposed. Two weeks later a hard sore could be distinctly felt. On February 16th the Wassermann reaction was positive. On March 13th circumcision was performed, and a typical large Hunterian chancre was found at the base of the glans. On March 16th a typical papulo-roseolar syphilitic rash had developed on the trunk.

Relapses.

At the time of writing only six of the cases treated are known to have relapsed or to have developed other syphilitic lesions. In all the Wassermann reaction remained positive. Two of these had received only one injection, and quickly yielded to further treatment. In two others, both of which had suffered originally from very severe secondary syphilis, what have been described as neuro-relapses, occurred. As such cases are important, I give below a short account of each:

Case I.

A stoker, aged 25, suffering from a very severe papular rash; three injections of mercury had led to little improvement, and he was given two injections of salvarsan each 0 5 gram. Three months after being discharged he was again admitted suffering from symptoms which pointed to an affection either of the left auditory nerve or of the labyrinth—namely, vertigo, tinnitus, and internal ear deafness. The symptoms began suddenly with pain in the left side of the head about one week after he left hospital. The onset of deafness was sudden. There was no nystagmus. Energetic mercurial treatment was tried, also potassium iodide in large doses, but with little benefit. The Wassermann reaction remained positive.

Case II.

A stoker, suffering from severe secondary syphilis, received two injections of salvarsan each 0.5 gram in September, 1911. About two months later paralysis of the right facial nerve suddenly developed. Admitted to hospital again in February, he was found to have complete paralysis of the right side of the face; no other lesions or symptoms were present. This patient at the time of writing is still under treatment, but so far has shown no improvement under large doses of potassium iodide, together with massage and electricity locally. Wassermann reaction remains positive.

In the two remaining cases which relapsed the lesions rapidly cleared up under further treatment.

Effect of Salvarsan Treatment on the Total Days' Illness.

An important consideration, when discussing the advantages and disadvantages of salvarsan treatment, especially in the services, is the effect such treatment will have in reducing the total days' sickness of syphilitic patients in hospital. That a reduction must occur is evident to those who have had an opportunity of observing the clinical results. In September last the reduction in the number of days' sickness was shown by comparing the results of corresponding cases of syphilis treated in hospital during 1910 before salvarsan was introduced. This reduction was especially seen in cases suffering from ulcerative lesions of the mouth, tongue, and throat, the average number of days' sickness for each case being reduced to almost one half.

To demonstrate this effect of salvarsan further, a comparison has been made between the total days' sickness from syphilis in Haslar during the last six months of 1910, before salvarsan was introduced, and the total days' sickness during the past six months, when the drug was in very general use.

Table showing Duration of Sickness Before and After Introduction of Salvarsan.

	Total Number of Cases.	Total Days' Sickness.	Average Number of Days' Sickness for each Case.
First period of 6 months, salvarsan not used	305	8,371	27.4
Second period of 6 months, salvarsan used	326	6,458	19.8

Comparing these two periods it is seen that the average number of days' sickness for each case was reduced by 7.6 days.

Sequelae of the Injection.

Local.—565 intravenous injections have been given at Haslar, and in no case has any local trouble such as thrombosis or abscess occurred. The skin over the vein chosen is thoroughly cleansed with ether soap immediately before the needle is introduced. A sterile pad is applied afterwards, and removed on the following morning.

General.—The greatest care has always been taken in the preparation of the saline solution and we have seen very few severe reactions. Rigors and vomiting were rare. From November, 1911, till February, 1912, the saline was sterilized immediately before use, but our results were not better than we had obtained previously using saline possibly sterilized one or two days before use. The highest temperature recorded was 103.8°. In 43 per cent. of the cases the constitutional sequelae were practically nil, the temperature did not exceed 99°, and the only complaint was slight headache. Headache has been the most constant sequela in our cases. Transient diarrhoea and abdominal pain have also been noted in many cases. Slight albuminuria was noted in six cases, but in only two did it persist for more than a few days. Herxheimer's local reaction was frequently seen in early secondary cases, the rash becoming much more marked four to six hours after the injection. This symptom was nearly always accompanied by a rise in temperature. No toxic affection of the eyes has followed its use. In no case were any symptoms of collapse seen, nor have we seen in any of our cases any alarming or dangerous symptoms follow the injection. Patients are placed on low diet for the day on which the injection is given. Afterwards they are kept strictly in bed till the following morning, the temperature and pulse being taken every hour up till 8 p.m. For some weeks now we have been using fresh redistilled water in the preparation of the saline solution, with very beneficial results.

The Wassermann Reaction.—In the large majority of the cases Wassermann's complement fixation test has been carried out before and after the injections. Later results have also been obtained in many cases at varying intervals after leaving the hospital. These tests have been carried out by Fleet Surgeon Bassett-Smith, who will shortly publish his results. It is sufficient to state here that treatment with salvarsan has proved superior to mercurial treatment in leading to the production of a negative Wassermann reaction.

Conclusions.

The general plan of treatment at present in use at Haslar is as follows:

Primary Syphilis.—Immediately a diagnosis of syphilis is made, one injection of salvarsan is given, followed eight to twelve days later by a second. When discharged to duty no further treatment is recommended in the absence of symptoms unless the Wassermann reaction becomes positive.

Early Secondary Syphilis.—Two injections of salvarsan are given as in cases of primary syphilis. Further treatment in the absence of symptoms is based on the Wassermann test. From our results, even in these early secondary cases, I believe two injections will in many cases cure the disease; but unless the Wassermann test can be carried out about once a month mercurial treatment supplemented with iodides is recommended.

Late Secondary and Tertiary Syphilis.—One or two injections of salvarsan are given according to the nature of the case, our aim being to clear up the lesions as quickly as possible. When discharged to duty, these cases are, as a rule, recommended for further courses of mercurial and iodide treatment.

Latent Syphilis.—Salvarsan is not recommended as a routine treatment in cases of latent syphilis. Its use here should be restricted mainly to early latent cases, and cases where previous treatment has been slight.

From our results so far at Haslar, we are of opinion that salvarsan, with or without mercury, is indicated in every case of syphilis with active signs of the disease, provided no contraindications are present.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE INGUINAL OPERATION FOR THE RADICAL CURE OF FEMORAL HERNIA.

I HAVE read with considerable interest Mr. Morton's paper in the issue of the BRITISH MEDICAL JOURNAL of February 24th on the inguinal operation for the radical cure of femoral hernia. I have practised this operation for the last seven years, and it has always been a matter of some surprise to me that the operation should receive such scant attention in textbooks of operative surgery.

In addition to being the only anatomical method, it is also the only one successful in closing the upper end of the crural canal, and it is the only method which gives an adequate view of the neck of the sac and its contents in cases of strangulation.

My experience has been very much the same as that of Mr. Morton. Out of 30 cases, 11 were for radical cure and 19 to relieve strangulation. The large number of these cases that come to the surgeon for the relief of strangulation as compared with those that came for a radical cure is due, I believe, to the fact that a femoral hernia does not, as a rule, reach a large size, and does not give much inconvenience until strangulation occurs.

I am not able to speak with any certainty of the after-results of the operation, because, so far, I have not gone into the matter, many of my cases having only been done a year or two. I would, however, advocate this operation as a routine in all cases of strangulation. The incision I employ is a curved one, beginning over the pubic spine, passing downwards and outwards an inch below Poupart's ligament, and then upwards, to cross that ligament at the junction of its outer and middle thirds. A flap of skin and fascia, convex downwards, is then dissected up, exposing the hernial sac and the aponeurosis of the external oblique. The sac is now separated from surrounding structures, and opened. An incision is now made through the aponeurosis of the external oblique; in the male the cord is hooked upwards and inwards; the fascia transversalis is now divided, and the peritoneum exposed. I now incise the peritoneum, so that a good view is obtained of the bowel, both limbs of the herniated loop can be seen, and their condition ascertained. Gimbernat's ligament may be divided from above, as Mr. Fagge suggests, but I find that in a large number of cases the ring can be stretched by the finger from above. The bowel is now drawn up from below, examined and replaced in the abdominal cavity; the sac also is drawn up above Poupart's ligament and cut off; after ligation any opening left in the peritoneum is stitched up, the operation being finished very much in the manner Mr. Morton describes.

The advantages of this method of operating consist in a good view of the parts concerned, easy access to the constricting agent; while any operation on the bowel, such as resection or the stitching up of a perforation, is a much more simple matter with the increased space at one's command. It was frequently a difficult matter to draw the bowel far enough down below Poupart's ligament to examine the site of constriction when operating by other methods, while the bowel stood some risk of being damaged in the process; and should damaged bowel slip back into the peritoneal cavity—a contingency which I have experienced—it can be rescued at once.

Oxford. EDMUND C. BEVERS, F.R.C.S.

ANENCEPHALOUS MONSTERS.

MR. RONALD KIRKNESS records a case of anencephalous monster in the BRITISH MEDICAL JOURNAL of September 30th, 1911, page 755, which, in many particulars, is so like two cases I have recently met with that I am induced to send some particulars from my notebook.

The mother of the monster shown in the photograph was confined at the end of August, 1911. It was her fourth labour. The first two confinements were normal and healthy boys were born. The third labour produced a dead fetus, with abundance of liquor amnii. After the early months of her fourth pregnancy she rapidly increased in size, and became distended to such a degree that her friends felt certain she would bring forth twins. Labour commenced at the end of the eighth month. After several hours of weak pains I ruptured the membranes and at once there was an escape of an excessive quantity of amniotic fluid. In various vessels I collected and measured five quarts, but at least another quart must have escaped on the floor. The monster had been dead a few days.

The photograph, which was kindly taken by our house-surgeon at the Children's Hospital, shows the absence of cerebrum and of neck. The cervical vertebrae were wanting, the base of the skull being rigidly fixed into the dorsal vertebrae and the sternum. There was also a spina bifida in the dorsal region.

The other case, born six months ago, was the result of a third pregnancy. The first child, a girl, was normal in every way. The second labour occurred at the seventh month and was a placenta praevia, with dead fetus. The third labour was normal, except there was more than the usual amount of liquor amnii. The fetus was exceedingly well developed in body and limbs, but had an absence of frontal region of skull, and almost an absence of parietal region. She made no sounds and did not seem inclined for food. She lived in this state for two months. The mother of this monster has a narrow and high palate. I am inclined to ask the readers of the JOURNAL if this disaster is more frequently met with than formerly. During the year and a half I was house-surgeon to the Women's Hospital, and attended about 1,500 labours, I did not meet with a case. I am told by a member of the staff that cases of monsters are often met with now amongst the hospital patients.

Brighton. GEORGE MORGAN, F.R.C.S.Edin.

CYST OF ABERRANT BILE DUCTS.

As cyst of the accessory bile ducts is of uncommon occurrence, the notes of the following case may be of interest.

On November 26th I was called to a man, aged 68, who had been taken suddenly ill. On my arrival he was *in articulo mortis* and expired in a few seconds. On inquiring from his relatives concerning his previous history I learnt that he had not been medically attended for over forty years, but that when 20 years of age he had suffered from some indefinite stomach trouble. He had never lived abroad.

Two days later I made a *post-mortem* examination. The body was that of an elderly man of spare physique. The cranial contents were normal. The lungs were healthy but showed sclerosis in parts; the bronchial glands were enlarged and darkened with carbonaceous particles. The heart was atrophied and exhibited fibrous and fatty degeneration.

On opening the abdomen there presented a swelling the size of a large orange. It occupied the fissure of the suspensory ligament and projected beyond the anterior edge of the liver. The swelling was globular and smooth, and was adherent to the left and quadrate lobes and to the

stomach. It was enucleated with a little difficulty, and on closer examination it appeared to be a tense cyst with thick walls. On opening it a tenacious bile-stained mucoid fluid escaped; the wall of the cyst exhibited calcareous plates. It was apparently of long standing, as inspissated bile could be scraped from the cyst wall. The liver and gall bladder were normal; the latter and its ducts had no connexion with the cyst. The other abdominal viscera were healthy.

The cyst did not present any of the characteristics of hydatids; there were no daughter cysts and no scolices or hooklets—further, the contents in consistency were quite different from those of echinococcal origin. The wall of the cyst did not exhibit any lamination. It appears to have originated in the accessory bile ducts, which are occasionally found at the left end of the transverse fissure, and the fact that the contents of the cyst were of the nature of inspissated bile suggests that cystic dilatation of one of these abnormal ducts, with retention of its secretion, is the causative factor in its production.

Wolverhampton. W. MACALISTER BROWN, M.B., Ch.B.

DOUBLE CEREBRAL HAEMORRHAGE IN A YOUNG MAN.

THE following case presents some unusual features, and is, I think, worth recording.

E. R., a railway-ticket collector, aged 21, was admitted into the Hampstead General Hospital on the evening of September 24th, 1911, in a state of coma.

His history was as follows: Four years previously he had been in St. George's Hospital for six weeks with acute nephritis and marked oedema of face and ankles, etc. Since then he had been quite well, save for occasional headaches and scanty flow of urine. For three weeks before he became unconscious he had been blind in his right eye. For the twenty-four hours preceding this state of coma he had performed his duties in the ordinary way, and had taken his meals well. On the day of admission he went out for a walk at 2.45 p.m., and at 4 p.m. he complained of numbness in his left hand and arm, and then immediately fell down insensible.

On admission, four hours afterwards, he presented the appearance of one deeply comatose. The face was clammy and bluish, the breathing slow and slightly stertorous, and mucous rattling in his throat most evident. The pulse was slow and full, equal at both wrists, registering 190 mm. Hg on the Riva-Rocci sphygmomanometer. The heart sounds were very distinct and pounding in character; the apex beat was half an inch outside the nipple line in the sixth interspace. The lungs showed medium crepitations at both bases. The pupils were equal, very contracted, and did not react to light. The tongue was very foul and coated with brownish fur. The breath was quite inodorous; he had vomited twice since the seizure, some reddish material, probably some ingested fruit. The bladder was full. No convulsions had been noticed, but he had a curious habit of lifting his left arm and hand, scratching and beating his left cheek persistently. On the left side the knee-jerk was much exaggerated, with marked ankle-clonus and extensor plantar response. On the right side the knee-jerk was rather sluggish; there was no ankle-clonus, and the extensor plantar response was not so distinct. The limbs were not flaccid, but offered a good deal of resistance to flexion, etc.; they were not wasted. He drew up his legs and moved his arms occasionally. Urine was passed involuntarily, but not faeces. The urine was almost solid with albumen, no sugar, no acetone. He was very cyanosed on admission, and showed some twitchings of the left hand. There was well-marked albuminuric retinitis in both eyes, most marked in the right. Treatment was directed towards what was supposed to be a state of uraemic coma. Hot packs, venesection to 16 oz., stomach lavage, subcutaneous saline, and 1 oz. magnesium sulphate by stomach tube were administered, but the state of coma became deeper and he died twenty-four hours after admission. The temperature on admission was 95° F., and steadily rose till it became 106° F. half an hour after death.

Necropsy.

Brain soft, superficial vessels injected, and basal arteries very atheromatous. Membranes appeared normal. The left cerebral hemisphere showed definite bulging. On section there was an extensive haemorrhage on the left side, apparently caused by rupture of one of the anterior ganglionic branches of the left middle cerebral artery, the structure of the brain was destroyed, and the effused blood had broken through into the left lateral ventricle. On the right side of the brain was a small circumscribed haemorrhage the size of a walnut situated in the immediate neighbourhood of the lenticular nucleus and involving the genu of the internal capsule. The ruptured vessel was not identified. The right lateral ventricle was free from blood, as also was the fourth ventricle. The right kidney was minute and granular, with capsule adherent; the left large and granular, with thickened vessels. The heart was of the much hypertrophied renal type. The lungs were oedematous.

ANDREW J. SHINNIE, M.B., Ch.B.,
Late House-Physician.

SUBPHRENIC ABSCESS PRESENTING UNUSUAL FEATURES.

ON September 24th, 1911, I was called to see Mrs. B., aged 55, who was the mother of six children (youngest aged 14). She was a stout but active woman, who, having always enjoyed excellent health, had never required a doctor. Two years before I saw her she sustained a fall, and, although able to perform her usual household duties, she had never "felt the same" since.

She complained of pain in the right hypochondrium, with frequent and painful micturition. An indefinite swelling, painful on deep pressure, could be made out, and on vaginal examination the right side of the pelvis was found to be occupied by a smooth, soft mass about the size of an orange. The temperature and the pulse were normal, the bowels regular, and digestion good. She emphatically refused operative measures and expressed considerable surprise at the presence of any lump, which had never given her trouble. On October 1st the patient expressed herself as feeling very well and with great glee remarked that the swelling in her side had disappeared. On vaginal examination the swelling was found to be less definite and the mass, which was less marked, was somewhat difficult to reach.

On October 5th, as the patient, freed from all pain and frequency of micturition, had resumed her household work, I ceased my professional attendance.

On November 27th a recurrence of symptoms, attributed by the patient to getting wet on November 25th, led to a request for my resumed attendance. I found the patient looking very ill and unable, owing to pain in the lower part of the abdomen, to either sit or stand upright; the temperature was 99.8°, and the pulse 110. On November 29th the temperature was 100° and the pulse 120, and there was acute general abdominal pain. This was completely relieved by hypodermic injections of morphine, so that on December 1st the patient was improved and comfortable. On December 4th the temperature was subnormal, and the pulse 120 and feeble. There was persistent vomiting and cold, clammy sweat. The vomiting continued, and on December 9th was faecal. The abdomen was distended and tympanitic, and there had been no action of the bowels for seven days. The patient complained of neither pain nor tenderness. In consultation with a colleague the same pelvic condition, though increased in extent, was found as had been discerned in September. A small quantity of pus was passed by the vagina.

The autopsy revealed:

1. A collection of pus in the pelvis, iliac fossa, and Douglas's pouch.
2. That the caecum was greatly distended.
3. That the appendix was fixed by firm adhesions.
4. Recent diffused peritonitis with extensive lymph flakes and intestinal adhesions.
5. That the uterus was normal in size and the ovaries atrophied (caseating areas).
6. On the posterior wall of the duodenum a gangrenous patch of the size of a shilling piece with a perforation of half this diameter.

Undoubtedly this duodenal ulcer, which had given rise to none of the characteristic symptoms—at no time had the patient suffered from any form of dyspepsia or passed blood by the mouth or bowel—was the source of the septic condition which culminated in the death of the patient.

Woking. GEO. F. VINCENT, F.R.C.S.Ed.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

Friday, March 8th, 1912.

Sir John Moore, President, in the Chair.

Cerebellar Tumour.

Dr. Dempsey showed a patient, aged 24, whom he regarded as suffering from cerebellar tumour, and detailed her history. Dr. Craig said it struck him as peculiar that if the lesion were cerebellar, the fifth, sixth, and seventh nerves should be involved without any involvement of the eighth. Dr. Moorhead said it was extremely important that physicians should form some opinion as to the value of operation in such cases. His own experience of compression operations was very favourable, so far as the relief of the symptoms was concerned, and he had seen sufficient cases done to convince him that operation was the treatment to adopt in all cases of intracranial tumour. In two cases that came under his notice recently very considerable relief was afforded to distressing symptoms by operation in the parietal region. Mr. Blayney said he understood the patient in this particular case had refused operation. The recognized surgical treatment was to perform the decompressive operation, and there was no doubt this gave relief for some time. An argument in favour of the occipital in preference to temporal decompression was that should further operation be afterwards undertaken the necessity for a fresh opening would be obviated. Dr. F. C. Purser drew attention to the danger of diagnosing tumour of the cerebellum unless localized symptoms came on, at latest, very soon after general symptoms. Professor Thompson said the chief complications in the diagnosis of the case were the ataxia and the Romberg's sign present; the other symptoms might be explained by an extra-cerebellar tumour on that side. Mr. McConnell pointed out that the records of success in any particular class of operation altogether depended on the experience possessed in that particular branch; for this reason more attention should be devoted to the surgery of the brain. The difficulty of dealing with brain tumours was the length of time the tumour was allowed to remain. The operation mentioned by Mr. Blayney showed a large proportion of success.

X-Ray Diagnosis of Aneurysm.

Dr. Maurice R. J. Hayes, in a paper on *x*-ray diagnosis of aneurysm of the thoracic aorta, urged the necessity of remaining for from five to ten minutes in total darkness before making a radioscopic examination of the thorax in order to increase the luminous sensibility of the retina; it was also highly important that the investigator should be conversant with the *x*-ray appearances of normal as well as diseased chests. The diagnosis should be made from the screen examination. The shadows on a negative were likely to be misleading, especially to the inexperienced. With the negative static conditions only could be studied; with the screen dynamic conditions could be observed.

ROYAL SOCIETY OF MEDICINE.

Section of Medicine.

Tuesday, March 26th, 1912.

Dr. Frederick Taylor, President, in the Chair.

Abdominal Angina.

Sir Lauder Brunton, F.R.S., and Dr. W. E. Williams, in a joint paper, described a case of abdominal angina in a patient who suffered from severe pain on taking exertion. It was like that of angina, but was situated in the umbilical region. At first it was attributed to flatulence, but gradually increased, both in severity and extent, until it spread all over the chest, and caused perspiration to break out over the body. The patient had suffered from glycosuria for twenty-five years. On account of the severity of the pain Dr. Williams sent the patient to consult Sir Lauder Brunton, who remarked the great likeness of the pain to that of angina pectoris, and prescribed trinitrine, with the result that the pains were removed by the medicine, exactly in the same way as if they had been situated in the chest. The sister of the patient suffered for seven years from similar pain in the same region; walking sufficed to start it. Her pain also was removed by the taking of trinitrine. The term "angina abdominis" was first used by Baccelli, and cases had also been described by Professor Pal and by Huchard. Most of these suffered from tabes.

Dr. Parkes Weber referred to the extensive Continental literature on the subject, and the variety of names which had been given to it, an example of these being "dyspravia intermittens angio-sclerotica intestinalis," a variant being the substitution of "gastrica" for "intestinalis" when the stomach was believed to be concerned. One form was that in which patients past middle life had general arterial sclerosis with high abdominal blood pressure. Some persons had severe abdominal pain and a desire to defaecate, but it resulted in merely the extrusion of a little mucus. He related the case of a man past middle life who had abnormally high blood pressure, and some symptoms of general arterial sclerosis. The administration of nitrites in a bad attack was successful. He had known diuretine recommended for the condition.

Dr. Crookshank related the case of a stout elderly woman who for a year had had recurrent attacks of pain similar to those described by the readers of the paper. She had an acute illness, with vomiting, and was seen by a doctor, who thought she had intestinal obstruction due to impaction of faeces. She got worse, and died. *Post mortem* the pancreas was found lying loose as a necrotic mass, and the pancreatic artery was practically obliterated by arterio-sclerosis, and there was extensive arterio-sclerosis of the coeliac axis, suggesting that the pains were due to angina abdominalis, and that ultimately intermittent claudication of the pancreatic artery proceeded to gangrene of the pancreas. He preferred the term "intermittent claudication" for the condition.

The President favoured the rejection of the word "angina" in these cases also, as it meant not only pain, but a suffocating pain.

Functional Hour-glass Stomach.

Dr. A. F. Hertz, in a paper on the functional hour-glass stomach, said he regarded its diagnosis by radiography as one of the greatest triumphs of skiagraphic methods. In even well-marked cases of the condition all the signs which had been supposed to distinguish the peculiarity might be absent. But sometimes what was found by *x* rays to be hour-glass stomach was not found to be so at subsequent operation; this was because the condition might have had a functional origin. He recognized certain distinct forms: Spasmodic hour-glass stomach, which had been shown to be a not very rare condition. It was generally due to an ulcer at the lesser curvature. In some cases the spasm led to a curious narrow depression on the greater curvature. The spasm could sometimes be made to disappear by abdominal massage, by vigorous voluntary contraction of the abdominal muscles, or by the injection of $\frac{1}{100}$ grain of atropin. Orthostatic hour-glass stomach resulted from the coexistence of severe atony with gastroptosis, and was only present when the patient was in the erect position. In gastroptosis the stomach formed a tubular organ, the whole being filled with a mixture of food and gastric juice, except a small part of the fundus containing gas. But in a dropped stomach, whose tone was deficient, the food at once fell to the most dependent part of the organ. The upper limit of gastric contents was abnormally low. The hour-glass condition disappeared on the patient lying down, in which posture all patients should be examined. One form might result from the presence of an ulcer on the lesser curvature adherent to the left lobe of the liver. Pseudo-hour-glass stomach had led to errors in diagnosis, owing to misinterpretation of shadows, and to examination being made with the patient in the wrong posture; in some cases the bismuth was given stirred with milk, instead of a "bismuth meal."

Section of Diseases of Children.

At a meeting on March 22nd, Dr. G. A. Sutherland, President, in the chair, the following were among the exhibits:—Dr. J. L. Bunch: A case of *Leucoderma and premature canities*, in a girl aged 14 years; at this age such cases were nearly always progressive, but the leuco-

dermic areas in this child had become less marked and diminished in size, and the white hair had already acquired a considerable amount of pigment. Dr. PORTER PARKINSON and Mr. DOUGLAS DREW: A case of *Purulent pericarditis* subsequent to pneumonia in a boy aged 4½ years. Mr. Drew excised 2 in. of the fifth rib cartilage and evacuated 10 oz. of pus, which contained pneumococci in pure culture. Recovery was uneventful, and the urine, which previously contained blood, pus, and pneumococci, became normal. There were at the present time no signs of enlargement of the heart or of cardiac embarrassment. The heart moved to and fro when the patient was placed on one or other side. Dr. LEONARD GUTHRIE: A case of *Chronic jaundice and splenomegaly*, in a girl 6 years of age. The jaundice had existed for eighteen months; during the three months she had been under observation in hospital it varied greatly in intensity, but had never disappeared. The motions were always dark, and the urine had never contained any bile pigment. The spleen remained enlarged. The probable diagnosis was "toxic hepatic cirrhosis with splenomegaly." Dr. G. A. SUTHERLAND: (1) *Bilateral deltoid paralysis* in a child aged 1 year. A few months ago the child had an illness of an indefinite character, lasting about a fortnight. Since then there had been little movement about the shoulder-joints, the patient being able to move the forearm and hands freely. The left deltoid appeared to be completely paralysed, the right retaining very little power. (2) *Cerebral palsy* in a child 1 year old. At the age of 7 months the child began to have screaming fits, drawing up the legs and twitching the head and eyes. At the age of 10 months he had a series of general convulsions, lasting for two days, about nine each day. Since then there has been an occasional general convulsion. The child was fat and flabby. Mr. LIONEL E. C. NORBURY: *Subacute arthritis of shoulder-joint* in a baby aged 11 months, admitted to hospital with a history of a swelling, dating from a fall on the shoulder four weeks previously. After the joint had been opened and irrigated it recovered free movement. An organism of *B. enteritidis* type was isolated from the fluid in the joint. Mr. DUNCAN FITZWILLIAMS: *Congenital deformities* in the lower limb in a child 7 years of age. The head of the femur was high on the dorsum ilii, nearly as high as the anterior superior iliac spine; the femur was much shorter than its fellow; the head of the tibia was displaced forwards and slightly outwards, and the ligaments of the knee-joint were very lax; the patella was absent; the foot was in a position of extreme equino-varus. Dr. HERTZ read a paper on *Congenital dyschezia*, a condition in which there was no delay in the arrival of faeces at the pelvic colon, but their final expulsion was inadequately effected.

MEDICAL SOCIETY OF LONDON.

AT a meeting on March 25th, Dr. J. MITCHELL BRUCE, President, in the chair, the following were among the exhibits:—Dr. F. PARKES WEBER: (1) A case of *Diabetes insipidus* in a boy aged 10, who was somewhat undersized. Polyuria and abnormal thirst had been noticed since he was 3 years old. He passed about 4,000 c.cm. of urine in twenty-four hours. It was of low specific gravity (1001 to 1002), pale, and free from albumen and sugar. The thyroid appeared small. Wassermann's reaction was positive. (2) A woman, aged 33, suffering from *Aneurysm of the ascending thoracic aorta*. Wassermann's reaction was positive. Dr. DE HAVILLAND HALL: A man, aged 38, with a smooth rounded swelling in the right hypogastric region. Suggested diagnoses were *Hydatid cyst* or *Distended gall bladder*. Dr. ESSEX WYNTER: Two sisters, aged 17 and 24 respectively, who had each *Symmetrical nerve degeneration* situated in the lower branches of the brachial plexus. Wasting and contraction of the muscles had occurred on the ulnar sides of the hands, until the ring and little fingers had assumed the "main en griffe" position; the middle finger was less affected. The two inner lumbricals were implicated as well as the long tendons. The affected muscles showed some degeneration if electrically stimulated. The younger girl had experienced pain and numbness over a similar area, sometimes extending to the whole hand. Dr. W. J. FENTON: (1) A case of *Cervical tabes in a typist*, aged 40. The most noticeable feature was marked inco-ordination of the hands. (2) A girl, aged 18, with *Unilateral swelling of the right arm*. It appeared to be due to obstructed venous return. She was in good health. A skiagram showed that the first rib was abnormal in size and position. Dr. F. S. PALMER: Two characteristic examples of *Pseudo-hypertrophic paralysis*. The patients were two brothers, aged 15 and 9 respectively, and the cases were of interest as showing the disease in an advanced stage in the elder and an early stage in the younger boy. Mr. H. J. CURTIS: Two cases of *Fibro-cystic adenoma* of the thyroid successfully treated by operation with little scar formation. The latter was accompanied by a smaller accessory thyroid, resembling a calcified tuberculous gland. He also showed, among other cases, one of successful *Resection of the urethra* for about 1 in. for an impassable traumatic stricture several months after the injury. Mr. W. H. CLAYTON-GREENE and Mr. A. G. H. LOVELL: A boy, aged 9, in whom a *Cyst of the humerus* had been scraped eighteen months previously, and no recurrence had followed. Mr. E. M. CORNER: A man, aged 25, with *Hydrocephalus* and a callous ulcer on the dorsum of the fourth toe, possibly trophic or gummatous. Mr. A. E. BARKER: A man in whom an *Ununited fracture of the tibia* had been joined by grafting the patient's own second metatarsal bone. The exhibitor emphasized the importance of using autogenous vital tissue in such cases. Mr. ARBUTHNOT LANE and Mr. BARRINGTON WARD: A girl, aged 10½, the subject of *Rheumatoid arthritis*. Ileo-colostomy had been followed by great general improvement and freer movement of the joints. This was ascribed to prevention of autointoxication from the large bowel.

MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.

AT a meeting on March 15th, Dr. FREELAND FERGUS, President, in the chair, the following were among the proceedings: Dr. T. K. MONRO described a case of *Insular sclerosis* in a married woman aged 48, who died in the infirmary on June 17th, 1911. The symptoms had first appeared four years previously, but there had been marked remissions, and it was only a week before death that she became unable to walk and experienced difficulty in swallowing and during speech. The sections from the brain and spinal cord in this case were demonstrated by Dr. MADGE ROBERTSON. They showed patches of sclerosis in the lower part of the pons and in the cervical and upper dorsal cord. Dr. ELIZABETH T. FRASER demonstrated the *Ascoli-izar or meiostagmin* reaction as employed in the diagnosis of malignant tumours. She could give no personal opinion of the practical value of the method, as the observations so far completed by Dr. Campbell and herself were insufficient to warrant any conclusions. Dr. MILNE MCINTYRE showed specimen and microscopic sections from a case of *Primary cancer of the bronchus* associated with chronic tubercle of the lungs, which had occurred in a man 67 years of age. Both lungs were emphysematous, anthracotic, and on section showed numerous opalescent areas of tubercle. The upper lobe of the left lung was consolidated, and contained a cavity bridged by trabeculae and lined by ulcerated lung tissue. The lumen of the bronchus leading to this part of the lung was narrowed by a carcinomatous tumour limited to a small portion of the bronchus and to a small surrounding area of lung, and without any extension to lymphatic glands or other metastases. Its histological features pointed to the submucous glands and lining epithelium of the bronchus as being the likely seat of origin. Dr. J. ARCHIBALD CAMPBELL demonstrated the *Boas-Wassermann reaction*; in this a number of different serum quantities (0.2, 0.1, 0 05, 0.02, 0.01 c.cm.) are employed, with the idea of permitting the measurement of the degree in which a patient is still syphilitic, and so affording a guide to treatment. A negative reaction, the demonstrator said, must be given with all these serum quantities before mercurial or salvarsan treatment could be discontinued. He strongly recommended the method on account of its extreme delicacy and accuracy. Dr. MADGE E. ROBERTSON demonstrated microscopic sections showing *Cysts in the posterior root-ganglia*, which had been found in two cases of leukaemia and in one case of cerebral tumour. No con-

nexion could be traced between any symptoms observed and the condition of the ganglia.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT the sixth meeting, Dr. A. W. RUSSELL, the President, in opening a discussion on *Puerperal sepsis*, said that the figures of the Registrar-General proved that the country was annually losing thousands of mothers owing to insufficient care and defective methods at the time of childbirth. The following points demanded serious consideration: (1) The widespread and persistent prevalence of what was admittedly a preventable disease. (2) The need for proper definition of the condition that must be notified, and for early fearless diagnosis and notification as an aid to effective treatment. (3) The wider and more practical recognition of the fact that the process of childbirth needed asepsis from beginning to end. (4) Such further practical instruction of the student and young practitioner as would enable him to grasp the true principles involved in attendance on such cases. (5) The proper legal control and education of all nurses and midwives. Dr. A. JOHNSTON, speaking of puerperal fever as seen in the Municipal Hospital, said the disease was wound fever and the infection bacterial. The organisms varied, but streptococci were most numerous. In a total of 290 cases of puerperal sepsis there were 123 deaths, that is, 42.4 per cent. He found antistreptococcus serum was worthless. Autogenous vaccines were useful, but only in the less acute forms, since half the fatal cases died within four days of admission, or in other words, within the minimum time required for the preparation of the vaccine. Professor MURDOCH CAMERON, discussing the subject from a consultant's point of view, said that the possibility of febrile attacks unconnected with the puerperal state must not be overlooked. A diagnosis between septicaemia and sapraemia must be made, the symptoms of the former being, as a rule, of greater severity and much less amenable to treatment. Pyaemia he rarely saw. He condemned the use of the curette, and relied on digital removal of any débris. Afterwards he swabbed the cavity, and applied carbolic and camphor, or 5 to 10 per cent. formalin lotion on a swab. Serum, in his experience, had saved the lives of several patients. Dr. JAMES CRAIG, speaking from a general practitioner's standpoint, said the number of virulent cases seen nowadays was less than twenty years ago. The unsavoury conditions prevailing in the houses of the poor were more surely the causes of puerperal fever than the unwarranted use of forceps or tearing of the genital tract by the general practitioner. Attention to small matters of detail and thorough antiseptic precautions were essential to success in general practice. Dr. A. K. CHALMERS, discussing puerperal fever in relation to the public health, said his statistics showed an increase in puerperal fever during the last quinquennial period; this, he thought, was due to a more rigid interpretation of the Notification of Births Act. The analysis of his tables made it clear that puerperal fever was occurring in the practice of midwives and nurses at twice the rate which obtained in the practice of qualified practitioners when they had charge of patients from the beginning. In his opinion the Obstetrical Society would do a work of immeasurable assistance to parturient women if they furthered the efforts of local authorities and medical officers of health in Scotland in having the Midwives Bill for Scotland placed on the statute book. Dr. ROBERT JARDINE, speaking of preventive measures, said that in maternity hospitals aseptic methods had practically abolished septic infection, but in private work there had been no improvement. This should not be the case. Care should be taken to render the external genitals as aseptic as possible; greasy lubricants should not be used, instruments should be thoroughly immersed in sterilizing them; labour should be conducted with as little interference as possible, and with the minimum internal examinations. Another point of great importance was to empty the uterus thoroughly. There was one surgical principle which was often overlooked—namely, free drainage. This could be obtained by raising the upper end of the bed. In conclusion, he asserted that puerperal fever could and ought to be prevented.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on March 13th, Mr. C. A. MORTON, President, in the chair, Dr. MICHELL CLARKE, in opening a discussion on the *Intracranial complications of suppurative ear disease*, reviewed the symptoms of the cerebral and meningeal complications of ear disease, and pointed out the difficulties of diagnosis when otorrhoea complicated such diseases as polioencephalitis, cerebral tumour, basic meningitis, and tuberculous meningitis. He was followed by Mr. LACY FIRTH and Dr. CAREY COOMBS, the former discussing the diagnosis and treatment of lateral sinus thrombosis and the technique of the operations for the meningeal and cerebral complications of aural disease; while Dr. Carey Coombs showed what was the relative frequency of the various complications as gauged by the records of the Bristol General Hospital. Dr. J. O. SYMES said the intracranial complications were comparatively rare in the acute otitis of children, whether this occurred in connexion with acute specific fevers or independently. Dr. WATSON-WILLIAMS deprecated palpation of a thrombosed jugular vein, and related a case illustrating the possible latency of cerebral abscess. Dr. J. A. NIXON expressed the opinion that the surgeon should attach little or no importance to the absence of optic neuritis. Mr. A. J. WRIGHT said that in 7 per cent. of cases of uncomplicated aural suppuration optic neuritis was present. The PRESIDENT stated that out of 5 cases of cerebral and cerebellar abscess he had operated upon, 3 had recovered.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting in Sheffield on March 15th, Mr. RICHARD FAVELL, Vice-President, in the chair, Mr. CUFF reported a case of extreme *Vesical incontinence*, associated with prolapsus uteri, which he had successfully treated by laying bare the urethra, putting in some puckering stitches, and then doing a very thorough anterior and posterior colporrhaphy and Gilliam's operation. Dr. FITZGERALD showed: (1) A *Mucoid polypus of the cervix*, the size of a tennis ball, removed from a woman aged 31. The patient, who had been married for twelve months, complained of dyspareunia, pain in the back, occasional menorrhagia, and a persistent offensive leucorrhoeal discharge. (2) A *Dermoid of the right ovary*, and a pedunculated fibroid tumour which was attached to the posterior wall of the uterus, removed from a patient aged 70. Two years before the patient had suffered from an acute illness which was attributed to a pelvic tumour. Her condition at that time had been so grave that it was feared she would not survive. She, however, got well. The dermoid shows at its upper end a blood clot the size of a ping-pong ball, which no doubt was the result of torsion of the pedicle having occurred at the time of the previous illness. She complained of constant pain in the right iliac fossa and low down in the back. Mr. MILES H. PHILLIPS (Sheffield) reported a case of severe *Concealed accidental haemorrhage* which had been successfully treated by Caesarean section followed by hysterectomy. The patient was 33 years old. During the previous thirteen and a half years she had had nine full-time labours and one miscarriage. Until one morning a fortnight short of full time she had been in good health. She was then awakened by severe abdominal pain. She fainted two or three times. There was no external bleeding. Dr. Walker, of Tinsley, recognized the condition, and at once sent her into the Jessop Hospital, where the operation was performed. For thirty-six hours recovery was very doubtful, but thereafter she made steady progress, which was delayed in the third week by a slight paracervical cellulitis. Dr. OLDFIELD, in a paper on *Diverticulitis* as a cause of pelvic inflammation, reported 3 cases. The condition, he said, was fairly common and well-known to surgeons, but had apparently escaped the notice of gynaecologists. The two chief clinical varieties he described were left-sided "appendicitis" and chronic obstruction. The former might assume various forms, just as appendicitis did, and not uncommonly caused pelvic abscess or even general peritonitis. The latter variety resembled obstruction from malignant disease of the pelvic colon, and on exploration, and even after resection of the portion of bowel involved, the disease was usually taken for carcinoma. In nature

it was inflammatory, and arose in connexion with small multiple diverticula from the colon, particularly the sigmoid. In operating for pelvic inflammation it was necessary to be mindful of the existence of diverticulitis, because, while it simulated left-tube ovarian disease, its operative treatment was both more difficult and more dangerous. Indeed, the death-rate from operations in chronic cases was very high, and was mainly due to the fact that the true nature of the condition had not been determined until after death.

THE OPSONIC INDEX.

IN reporting a modification of the technique employed in determining the opsonic index described by Dr. C. Russ at a meeting of the Pathological Section of the Royal Society of Medicine on March 19th (BRITISH MEDICAL JOURNAL, March 30th, p. 728) we indicated as the essential point in his paper a claim that the modification effected some degree of diminution in the sources of error. In deference to the wishes of Dr. Russ, we now state that the essential point was that "the observed errors by the improved process were one-quarter the magnitude of those by the old process, the conditions of experiment being almost completely comparable."

Reviews.

THE IDEA "CONDITIONED" IN MEDICINE.

THE monograph which VON HANSEMANN has devoted to the "conditional" idea in medicine[1] is of much interest, though the interest may be somewhat different from that which he anticipated. His main thesis may be shortly stated thus: "To look upon a disease as the result of a cause is misleading, and it is more useful to consider it as dependent on a set of conditions; of these conditions some are necessary and some are changeable." The idea here expressed is by no means new, but it has recently been urged by several writers with a variety of terminology from which the writer has selected that of "condition," as used by Verworn, and, having applied it widely to the problems of pathology, has found it stimulating. In the monograph he applies it over the whole range of medicine with a wealth of illustration from his wide experience that gives its real value to the essay.

The series of sketches by which he illustrates the complexity of the relation of a disease to its antecedents forms a useful reminder to those who may be apt to overlook this fact, even should it fail to carry conviction on the point of philosophy. It is one thing to show that concentration on, say, the tubercle bacillus, led for a time to leaving in the background the other factors in the problems in which it is concerned, but it is quite another to prove that such a concentration—which, after all, must prove temporary—is not a real economy in the progress of knowledge. Few who have to think about the etiology of a disease ever forget its complexity, and though often the patient asks what is the cause of his illness, the conscientious physician, knowing the multiplicity of factors, as often hesitates for his answer.

To make clear the author's way of thinking, it is necessary to quote some of his illustrations. Beginning with traumatic conditions, where the idea of the trauma as cause might be supposed to find its readiest justification, he points out the various factors contributing to produce phenomena observed in a case in which the patient has been run over in the street; in that event the trauma is but one member of the complex leading to the accident and determining its issue. Going on to the traumatic neuroses and allied conditions, he states what he considers the practical gain as follows: "One can say with certainty that the conditions named are never created by a trauma, that is, that an individual absolutely healthy beforehand never develops a hysteria or diabetes or exophthalmic goitre, etc., from a trauma. It would, therefore, be unjustifiable to compel an insurance society to pay accident or death claims on such an occasion." This proposition hardly compels acceptance by those who wish to insure against the trauma as the "exciting impulse (*das auslösende Moment*)." Applying the same mode of reasoning to poisoning, the importance of the individual reaction to the poison concerned is emphasized. A long and interesting chapter is devoted to tuberculosis; the various elements in the individual disposition are described, and the factors that determine whether the individual will develop tuberculosis at all in the presence of the bacillus, and if he does, what form it will take. After a chapter on other infective diseases the author passes to the non-infective conditions—rachitis, gout, cirrhosis, and malformations—and then goes on to tumours, where he says that the looking for a cause has prevented the formation of general etiological theory. He finds that three factors are necessary for the production of tumours: (1) Irritation of some kind; (2) its prolonged action; (3) individual disposition. In this he sees the reason for the failure of the experiments on the production of tumour in animals.

In a chapter on conditions given by the prognosis he writes, "one sees in these parasyphilitic conditions to what errors the idea of cause can give rise. When we say that the cause of syphilis is the *Spirochaeta pallida*, and further that the cause of the parasyphilitic conditions is syphilis, the *Spirochaeta pallida* enters into the first line as the cause of these conditions, and it would be quite logical to attempt to cure them by destroying the *Spirochaeta pallida*. . . . But we are not in a position to remove the cicatrizations which the gummosities leave behind them, and which lead to the parasyphilitic diseases."

The concluding chapter applies the same mode to illustrate the origin of epidemics, and the whole argument is summarized in a series of fourteen propositions.

The author seems not to realize that the colloquialism of everyday speech has its analogue in everyday thinking, and that here the idea of cause is a convenience which would be out of place in the more formal reasoning of science, in the terminology of which "essential condition" and its correlatives are already enshrined.

[1] *Ueber das konditionale Denken in der Medizin und seine Bedeutung für die Praxis.* Von Dr. v. Hansemann. Berlin: August Hirschwald, 1912. (Imp. 8vo, pp. vii, 184; figs. 30. Price M. 5.)

THE TREATMENT OF SYPHILIS.

ALTHOUGH there are now many papers in English on the subject of syphilis and salvarsan, it is well that we should have translations of original monographs. The profession, therefore, is indebted to Dr. ABR. L. WOLBARST for translating Wechselmann's book on *The Treatment of Syphilis with Salvarsan*.[2] Wechselmann was one of the first to be taken into Ehrlich and Hata's inner counsel, as he had at command a large clinical field in which the new remedy might be tried in a precise definite scientific fashion. This work is an account of those earlier investigations and observations. One of Wechselmann's most important primary observations was that salvarsan had a powerful effect for good in cases of syphilis which had proved resistant to many years' mercurial treatment. It is to him also that we owe the knowledge that a second injection may be given, not merely with impunity, but with advantage. Wechselmann was not difficult to convince, as Ehrlich had been convinced, that the intravenous method of administration is the best. By this method the drug most certainly reaches the uttermost corners, so to speak, of the organism, and is carried with most sureness into the connective tissues in which the spirochaetes are most prone to lodge. The intravenous method provides the energetic *ictus therapeuticus* necessary to accomplish the ideal *therapia sterilisans magna*. One "blow" may not be sufficient, and Wechselmann shows that two or three may be required if local recurrence take place, or if the Wassermann reaction continues. These local recurrences are explained by the author as due to persistence of spirochaetes in foci which on account of an imperfect blood supply have not been reached by the drug. This is most apt to occur if the drug has been administered in the early secondary stage when the whole organism is saturated with spirochaetes. The author is careful to point out the importance of observing the effect of salvarsan on the Wassermann reaction, and shows that the treatment of a case is not complete unless and until the Wassermann reaction becomes and remains negative. The literature of the subject, necessarily all German primarily, is reviewed by the author, and the translator has rightly added notes of the literature in English. At the end of the book are a number of coloured illustrations

[2] *The Treatment of Syphilis with Salvarsan.* By Sanitätsrat Dr. Wilhelm Wechselmann, Berlin. With an introduction by Professor Dr. Paul Ehrlich. Only authorized translation by Abr. L. Wolbarst, M.D. New York, Consulting Genito-Urinary Surgeon, Central Islip State Hospital, etc. With 15 textual figures and 16 coloured illustrations. London: Rebman, Limited. 1911. (Med. 4to., pp. 169. 21s.)

showing the effect of salvarsan administration in various syphilitic lesions eight to fourteen days after. These pictures may well be regarded as perfect, and will probably become classical.

Dr. GUSTAV BAAR'S essay on *The Modern View of Syphilis and its Treatment*[3] is avowedly written for the purpose of advocating the more extensive employment of the Wassermann test. He narrates large numbers of cases in which the diagnosis rested entirely on this reaction—cases chiefly of the kind in which the history was obscure, more or less intentionally. The fact that a positive Wassermann reaction may be obtained in some non-syphilitic diseases, such as trypanosomiasis and scarlet fever, is noted, but in these it is only for a limited time after infection, say, about eighty to ninety days, whereas in syphilis the reaction is present at all times and stages. The second portion of the book deals with visceral syphilis, but it makes no pretence to be a scientific exposition of the subject. The temperature charts of some cases of cerebral syphilis are interesting.

MEDICO-LEGAL WORKS.

A RAPID perusal of the *Textbook of Medical Chemistry and Toxicology*,[4] by Professor JAMES W. HOLLAND, has proved an exceedingly pleasant task (were it not for the very aggravating, to English readers, methods of spelling—bromin oxid, for example), and the impression left on the reviewer's mind is exceedingly favourable; it is not surprising that the work has run through three editions in some seven years, a rate of progress that proves the work to be very acceptable to American readers, at all events. The volume opens with a section on physics, with probably quite as much on heat, light, and electricity as a medical man requires in this connexion; ions are well explained, but high-frequency currents are omitted. From physics a natural gradation leads to chemistry; the non-metals, which are first treated, are followed by the metals, and these in turn by organic chemistry. This subject, which, as the title would imply, occupies the bulk of the work, is dealt with in precisely the way which is most useful to the student of medicine, for along with the strict chemical details there are introduced paragraphs on the pharmacology and physiology and therapeutical usages, and also the toxicology of each substance, so that the student becomes at once interested in the substance under discussion, and learns a great deal more about it than its mere chemistry; for men to whom chemistry is a mere aid this method, we think, ought long ago to have been introduced into English medical schools. The introduction of numerous woodcuts and diagrams makes this part of the work very easy to understand. The book closes with an excellent section on the energy of foods, and an account of the chemical changes they undergo in digestion, ending with a complete scheme for the analysis of blood, milk, and urine. It is possible that there may be many monographs on the various divisions of this work, which are naturally and of course much fuller, but they commonly contain so much more than the medical student requires that he gets wearied. The work under review seems very cleverly to have hit the happy medium between a mere elementary treatise and a complete work of reference, and it is one we can heartily recommend to all students, and not only to them, but to busy medical men who want to rub up their old knowledge and even to find something new.

It is possible that there is a necessity for the existence of such books as the volume entitled *Medico-Legal Aspects of Moral Offences*,[5] but we are strongly of opinion that, if there be this necessity, nevertheless their only proper place is a library of reference. The moral causes of rape, the existence of perverted sexual instincts, are presumably facts which are from time to time objects of scrutiny by the law; but when such cases occur they should be heard *in camera*, and only placed on record for reference. The book we are reviewing seems to be exhaustive of the possibilities of such extraordinary behaviour, and certainly forms an excellent work of reference for alienists and medico-legal experts, but it should otherwise be kept under lock and key.

THE CLIMATE OF AFRICA.

The Climate of the Continent of Africa[6] is the title of a work by ALEXANDER KNOX, F.R.G.S., an author who has also written on the geology of the same continent. To write comprehensively on a subject such as the climate of a continent the size of Africa is, of course, a gigantic task, and Mr. Knox must be complimented on having undertaken the work. That the subject is interesting and, what is more important, of use, is of course undoubted, and the value of such a compilation to any one proposing to settle in any one of the different parts of Africa will be very real, and in this respect also the description of the products of the different territories will be helpful. This being so, it is a great pity that the healthiness or unhealthiness of the different colonies and protectorates—that is the medical status of each place—was not equally dealt with. This part of the work falls lamentably short of what it should have been. Of course, to have dealt with this in anything like a satisfactory manner would have enormously increased the size of the book, which as it stands is not small (552 pages), but when in the section on Uganda sleeping sickness and the tsetse fly are not so much as mentioned, then, manifestly, an altogether erroneous impression must be given to the uninitiated reader. It is the same as regards North-Eastern Rhodesia and Nyasaland; the recently occurring cases of sleeping sickness are not mentioned, and the statement (page 373) that "though in some parts of South Central Africa sleeping on the ground may be practised with impunity, this should never be attempted on the Nyasa-Tanganyika plateau, as fever is an almost certain result," is pretty typical of the rest of the medical information scattered through the book. It may not, of course, have been intended to incorporate any accurate medical information in the book, but then in that case it would have been better not to have mentioned the salubrity or otherwise of the places rather than to have given intending settlers or others erroneous ideas which would only be too rudely shattered later. This is the one fault in the book for medical readers, otherwise the text is well written, is accurate, and contains an enormous mass of very useful meteorological information, and from that point of view is most valuable. If the book ever comes to a second edition, an appendix, or something of that sort, giving accurate information as to the salubrity of the different places dealt, would certainly enhance the value of the work.

BRITISH RED CROSS MANUALS.

IN issuing manuals of instruction for the personnel of their Voluntary Aid Detachments, the British Red Cross Society considered it imperative that separate textbooks should be devoted to each branch of Red Cross work. *No. 1 Manual*,[7] prepared for the society by Dr. JAMES CANTLIE, and dealing mainly with first aid to the injured, is issued as the basis for all the branches. It includes the requisite outline of anatomy and physiology, first aid and emergency treatment, bandaging and elementary transport, this latter subject being dealt with more fully in *No. 3*. The *Manual* is profusely illustrated, and is written in popular language which should be readily understood.

It has been laid down by Sir Alfred Keogh, the past Director-General of the Army Medical Service, that the essential function of a Red Cross Voluntary Aid Detachment is improvisation. This is rendered essential by the fact that the stores and equipment which may be required for its effective working are not available, or may not be

[3] *The Modern View of Syphilis and its Treatment.* By Gustav Baar, M.D. Vienna, Member German Congress for Internal Medicine, etc. New York and London: D. Appleton and Co. (Cr. 8vo, pp. 297. Price 8s. 6d. net.)

[4] *A Textbook of Medical Chemistry and Toxicology.* By James W. Holland, Professor of Medical Chemistry, Jefferson College, Philadelphia. Third edition, and thoroughly revised. W. B. Saunders Company. (Med. 8vo, pp. 655, figs. 112. 15s. net.)

[5] *Medico-Legal Aspects of Moral Offences.* By L. Thoinot, M.D., Expert to the Tribunal of the Seine. Translated by Arth. W. Weysse, Professor in Boston University. Philadelphia: F. A. Davis Company; London: Stanley Phillips. 1910. (Medium 8vo, pp. 502, engravings 17. 12s. 6d. net.)

[6] *The Climate of the Continent of Africa.* By Alexander Knox, B.A. Cantab., F.R.G.S., Member of Convocation of the University of the Cape of Good Hope, author of notes on the geology of Africa. Cambridge: At the University Press. 1911. (Sup. roy. 8vo, pp. 562; maps 14. 21s. net.)

[7] *British Red Cross Society First Aid Manuals: Nos. 1 and 3.* By James Cantlie, M.A., M.B., F.R.C.S., V.D., Honorary Surgeon-Colonel, R.A.M.C.(T.F.) London: Cassell and Co., Limited. (Cr. 8vo, Part I, pp. 235; Part III, pp. 246. 1s. each.)

available at the time when most required. In order to train the detachments during peace time to be able to improvise from whatever material comes to hand, the British Red Cross Society has issued, with the approval of the War Office, its *Training Manual No. 3*, which has likewise been prepared by Surgeon-Colonel James Cantlie. This manual deals with the ordinary stretcher exercises, wagon drill, and ambulance and sanitary organization in the field. On these subjects there are many books. But the most important part of this new manual, because almost invariably neglected till recently by writers on first aid, lies in the chapters devoted to improvization—improvization of stretchers, seats and wagons, of beds, shelters and tents, of filters, cooking apparatus, even of ropes and needles. There are eight full-page plates taken from photographs and 136 illustrations in the text to elucidate the drill, the preparation of all kinds of appliances, and the making of knots and lashings. For training civilians in first aid and emergency transport this is a most practical and useful work.

NOTES ON BOOKS.

Thanks to the salutary lessons inculcated by the South African and Russo-Japanese campaigns, it is now recognized among combatant officers that the Medical Corps exists for other purposes than the tending of sick and wounded, and that the keeping of the healthy soldier healthy is an all-important part of its work. To achieve this, however, demands not only an efficient sanitary organization, but co-operation between the medical officer and all officers of regiments. The *Handbook on Military Sanitation*[1] is specially designed by Major Barnett, R.A.M.C., for the proper instruction of regimental officers in the main principles of hygiene and sanitation, as applied to troops in camp, in barracks, and on the march. It should be of great assistance to all medical officers, and especially those of the Territorial Force, who are called upon to impart this instruction, as well as to those officers who receive it.

Dr. Max Herz gives in *New Zealand*[2] a graphic and readable account of that go-ahead country—a country where female suffrage, popular control of licensing, State regulation of labour, State adjudication on trade disputes, and socialistic land laws exist side by side with a high, unyielding wall of protective tariffs. The climate is mild, the soil fertile, and periods of drought are unknown. The temperature of Auckland's coldest month averages 51°, its hottest 65°. The population has grown from 37,000 in 1885 to 900,000 in 1900. An interesting account of the country's early history, of the character of its first Maori inhabitants, and the difficulties of the first white settlers, lead to a consideration of the New Zealand of to-day. Dr. Herz says there is no opening for doctors, as the "professions are more than filled in proportion to the small population." If the towns and cities are inartistic to plainness, the country displays a wealth of natural wonders and beauty. In one part Alpine snow and glaciers, in another hot lakes, spouting geysers and still active volcanoes; whilst the glories of the bush are only rivalled by the majesty and beauty of the fiords and inland lakes. Full particulars of New Zealand's trade are given, and the volume ends with some critical observations on the inhabitants, who are described as a race devoted to sport, and the practical rather than the artistic side of life. The book is well written, full of information, never dull, permeated with a sly humour, and illustrated by many excellent photographs. Though blemished by a few printer's errors, the type and printing are clear and bold, and the general get-up excellent.

A seventh edition of *A Simple Method of Water Analysis*[3] has now appeared, and we are glad to note that therein Dr. J. C. Thresh has adopted a suggestion which we made when noticing its predecessor—namely, that he should in any future edition instruct users of his book to return their results in parts per 100,000 instead of grains per gallon. The method described—that of obtaining information as to the character of water by the use of soloids—is sufficiently sound to have led, we believe, to the authorization of its use by officers in the medical department of the Royal Navy.

We have already reviewed (British Medical Journal, February 19th, 1910, p. 449), the German original of the volume on *Anaemia*,[4] by Ehrlich and Lazarus, so that there is little to do but to comment upon the way in which Mr. Armit has discharged his duty of translator. That the volume has found an English translator is most satisfactory, for its contents go to form much of what is accepted as fundamental in haematology; the authors are fortunate in finding such a good English interpreter as Mr. Armit: one misses all "Germanisms" except perhaps the maintenance of the word "erythrocyte" for red corpuscle, and one is grateful for help in many a difficulty in grasping some of our Teutonic colleagues' ideas; despite the translator's own care and despite the assistance of haematologists and mathematicians, we think "sinistral asymmetry" though certainly giving a translation for "Verschiebung nach links," but a poor description for the condition of nucleus which shows less segments than normal. Mr. Armit quite properly sets Professor Naegeli right in the section on page 152 in which the latter deals with the phagocytic theory of Metchnikoff, but compares the functions of leucocytes with those of such ferments as alexins derived from them. The reader will find in this monograph the last word of its distinguished authors on the subject of "anaemia," and will be grateful to Mr. Armit for making it accessible to English readers who are not familiar with the German language.

It is only eighteen months since the appearance of the second edition of Mr. Hey Groves's *Synopsis of Surgery*.[5] Its well-deserved popularity demands a third edition. This edition is not essentially different from its predecessor, but the additions necessary to keep it quite up to date, particularly in new methods of treatment, have been freely made. We remember how a Professor of Surgery of a former generation used to say to his class: "That is the pathology of the condition, gentlemen, up to the day before yesterday." In the present days treatment changes—sometimes with advances, sometimes not—with bewildering rapidity, so that we require to know it "up to the day before yesterday," and we require also to get at the knowledge quickly. There are two kinds of knowledge broadly considered—the knowledge that we carry in our heads and the knowledge that we know where to lay our hands on at a moment's notice. Mr. Hey Groves has supplied, in practically perfect form, the latter kind of knowledge as it concerns surgery. The book is among the best of its kind, and the author is to be congratulated on its readableness, its lucidity, and its fullness—notable qualities in a book whose greatest quality of all is that it remains a synopsis. The student or the man preparing for the higher examinations, or even the teacher going to meet his class, will find all the points vividly put, so that his memory will readily respond to fill in the outlines. One might cavil at the introduction of illustrations, which properly should not be found in a synopsis, but, with one exception, they are all in the chapter on surface markings and are themselves synoptical.

"The Significance of Existence."

Dr. J. Harris (Liverpool) writes: My attention has been drawn to a recent review of my book, *The Significance of Existence*, which appeared in your columns, and the unfairness of which is so manifest that I trust you will not refuse me a little space in your valuable paper for one or two remarks. It speaks well for the book that in spite of the fact that it contains a mass of scientific and philosophical matter, your reviewer, in order to afford himself an opportunity for adverse criticism, had to confine his remarks to misprints and oversights in passing the printer's proofs. Even then, some of his quotations are incorrect; for instance, the sentence, "it is spiritless and empty, and

[1] *Handbook on Military Sanitation for Regimental Officers.* By Major K. B. Barnett, M.B., B.Ch., F.R.C.S.I., R.A.M.C. London: Foster Groom and Co., Ltd. 1912. (Cr. 8vo, pp. 198. 2s. 6d.)

[2] *New Zealand; The Country and the People.* By Max Herz, M.D. With 81 illustrations and a map. London: T. Werner Laurie. 1912. (Demy 8vo, pp. 382. 12s. 6d.)

[3] *A Simple Method of Water Analysis.* By J. C. Thresh, M.D.Vict., D.Sc.Lond., D.P.H.Camb. Seventh edition. London: J. and A. Churchill. 1912. (Fcap. 8vo, pp. 65. Price 2s. 6d. net.)

[4] *Anaemia.* By Professor P. Ehrlich and A. Lazarus. Second edition. Enlarged and, to a great extent, rewritten by Professor A. Lazarus and Dr. O. Naegeli. Translated from the German by H. W. Armit, M.R.C.S., L.R.C.P. London: Rebman Limited. 1910. (Roy. 8vo; 5 illustrations in the text; 5 coloured plates; pp. 231. Price, 12s. 6d.).

[5] *A Synopsis of Surgery.* By Ernest W. Hey Groves, M.S., M.D., B.Sc.Lond., F.R.C.S.Eng., Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at Bristol University. Third edition, revised. Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1911. (Post 8vo, pp. 593; figs. 12. 9s. 6d. net.)

their predecessor's best energies are spent in combating ennui," is not contained in the original. May I also inform your well-instructed and humorous critic that I have the authority of Herbert Spencer and others for the assertion that some tribes practise patricide. Again, I may assure your critic that the sentence, "it is the scope of intelligence to bring to bear on a momentary impulse that strives for realization some antagonistic impulses that for the moment are non-existent" is quite comprehensible to average mortals—even to those who are not endowed with his subtle intelligence. On the whole, I must compliment your contributor on his discovery of a new procedure in the reviewing of books, which apparently does not necessitate the understanding of the book one is to give his opinion on.

*** The sentence "It is spiritless and empty," etc., was not put in quotation marks, and does not pretend to be a quotation *in extenso*. Dr. Harris's words (p. 181) are: "Society . . . is not all it should be. . . . Society at present is spiritless and empty, devoid of all the generous impulses and noble aspirations that distinguished their predecessors. Their best energies are spent in combating the ennui following on their aimless, purposeless life." It will be seen that, though every word was not quoted, and no pretence was made of quoting every word, the sense was not misrepresented, and the insertion of the missing words does not render the grammar correct. No doubt was thrown on Dr. Harris's statement that some tribes practise patricide. All that was suggested was that Patrick should be warned of the regions so dangerous to him. It is well to know, on Dr. Harris's authority, that that which does not exist can be brought to bear on what does exist. We did not question the truth of the statement, but expressed our difficulty in understanding the mechanism; but as it now appears that average mortals can understand it, we must confess to not being average. We did our best to understand *The Significance of Existence*, and as it seems that we have failed, we trust Dr. Harris will put the failure down to the deficiency of our intelligence, and not to the demerit of the book.

MEDICINAL AND DIETETIC ARTICLES.

Formitrol Pastilles.

FORMALDEHYDE, in the form of its solid polymer paraformaldehyde, has found wide application as a local anaesthetic for the mouth and throat, and formitrol pastilles, supplied by Messrs. A. Wander, Limited (London, E.C.), contain each $\frac{1}{8}$ grain of formaldehyde with menthol and citric acid and a base which only dissolves slowly if not chewed, so that prolonged local action of the aldehyde is assured; each is enclosed in a tinfoil sheath to prevent loss of the medicament on keeping. The pastilles bear no brand and are not, we are informed, advertised to the public.

Pepto-Mangan (Gude).

The presentation of iron in assimilable form in cases of chlorosis has been attempted in many ways, both organic and inorganic compounds being utilized for the purpose; in Pepto-Mangan (Gude) iron and manganese are combined with organic matter in such a way that they are not precipitated from the solution by alkalis, and it is claimed that by the use of such a compound of both these metals, most satisfactory results are obtained. A sample of this preparation submitted by Messrs. T. Christy and Co., who are the London agents, consisted of a brown neutral liquid, free from astringency and with a slight aromatic flavour; after the organic matter had been destroyed by ignition, iron and manganese were found to be present in considerable quantity.

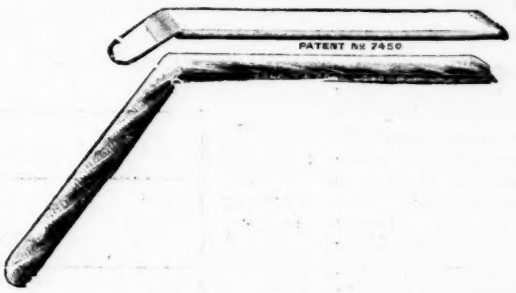
MEDICAL AND SURGICAL APPLIANCES.

A Noise Silencer.

SIR RONALD ROSS sends us a short account of an ear clip he designed some twenty years ago for a patient who was susceptible to noise. It is designed to close the tragus of one or both ears in such a manner as to exclude slight noises without preventing access of all sound to the ear. It consists of a curved metal spring, jointed in the centre for portability, and provided at each end with a button, which presses lightly against the tragus or other part of the ear. It is manufactured by Messrs. Charles Baker, 244, High Holborn, London, W.C., and it is suggested that it may also be useful in the treatment of nervous maladies. When lying down with one ear closed by a pillow, the button on that side can be placed in the hollow between the ramus of the jaw and the mastoid, where it causes no discomfort. It is suggested further that it may be worn with advantage by those employed in big gun or rifle practice.

Envelope for Tongue Depressors.

Dr. DONALD MURRAY (Stornoway) writes: Medical inspection of school children has its own problems, and one of these is the efficient examination of the throat without the risk of carrying infection from one to the other by the tongue depressor. Boiling or steaming the instrument is in nearly all cases impracticable. Disinfection by chemicals has many disadvantages. To obviate these a great number of medical officers use wooden depressors which are burnt immediately after use. This is a safer and cleaner method than by the use of one common depressor for all, whatever the disinfectant employed. Wood, however, has also its disadvantages—it is too bulky; it is not pure white and so does not reflect the light; where there are no open fires, and in summer when there are no fires at all, there is a practical difficulty in getting them burnt. A very simple expedient, and one which has several good



points in its favour, has been placed on the market by Messrs. Arnold and Sons, London. It consists of an envelope, made of specially prepared paper, which fits on to an angular depressor. The portion applied to the tongue is of double thickness, so that there can be no risk of organisms passing through. At the proximate (open) end there is a tab on which the finger rests to steady the envelope. This also serves as a catch by which to pull off the envelope after use, thus preventing any portion which has been in the mouth coming in contact with the medical officer's fingers. The small amount of room they occupy in the wallet, the enhanced illumination of the throat by the white paper, the facility with which the envelopes can be burnt and disposed of, together with efficiency in preventing throat to throat infection, should make this little contrivance a most useful item in the school medical officer's outfit. The same advantages will also commend it to the general practitioner.

The eighth International Congress of Applied Chemistry will be held at Washington and New York in September. The Congress is under the patronage of His Excellency the President of the United States. Among the papers to be read in the Section of Physiological Chemistry and Pharmacology are the following: Howard S. Reed, Ph.D., "The Enzyme Activities Involved in Certain Plant Diseases;" Reid Hunt, M.D., "Physiological Action of some New Compounds of the Choline Type;" G. A. Menge, Ph.D., "Some New Compounds of the Choline Type;" Atherton Seidell, Ph.D., "Comparative Solubility Studies on Thymol and Certain Other Vermifuges;" W. H. Schultz, Ph.D., "Pharmacological Action of Proteins and Some of their Derivates;" C. C. Guthrie, M.D., "A Comparative Study of the Action of Solutions on the Preservation of the Vitality of Tissues;" Arthur S. Loevenhart, M.D., "Further Observations on the Action of Oxidizing Substances;" W. N. Berg, Ph.D., "The Physico-chemical Basis of Muscle Contraction: A Critical Review;" Jacob Rosenbloom, M.D., "Chemical and Pharmacological Studies of Human Duodenal Contents;" George W. Crile, M.D., "Neuro-cytological Changes Resulting from the Administration of Certain Drugs;" Joseph L. Miller, M.D., "Physiological Action of the Various Anatomical Components of the Hypophysis;" J. A. E. Eyster, M.D., "The Relation of Calcium to the Inhibitory Mechanism of the Heart;" Atherton Seidell, Ph.D., "The Comparative Estimation of Epinephrine in Suprarenal Glands and in its Solutions Physiologically and by Colour Tests;" Walter Jones, Ph.D., "Some New Phases of the Nuclein Fermentation;" Charles Baskerville, Ph.D., "Inhalation Anaesthetics;" Oswald Schreiner, Ph.D., "The Physiological Rôle of Organic Constituents in Plant Metabolism."

CERTAIN PHASES IN THE EVOLUTION OF MAN.

ABSTRACT OF THE HUNTERIAN LECTURES DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS IN FEBRUARY AND MARCH, 1912.

BY

ARTHUR KEITH, M.D., LL.D., F.R.C.S.,

CONSERVATOR OF THE MUSEUM AND HUNTERIAN PROFESSOR.

(*Concluded from page 737.*)

THE RELATIONSHIP OF THE GIBBON TO THE PRIMITIVE HUMAN STOCK.

To those who make a special study of the evolution of man the small anthropoid or gibbon is the most important of all surviving apes. Those who are familiar with the gibbons as seen in the Zoological Gardens or who have kept them as pets value them for their mental and bodily characters, but the student is drawn to them because, structurally, they belong to a very ancient animal world and throw light on a very early stage in man's origin.

The gibbon, which lived in Europe in Miocene times, is now confined to the jungles of further India, to Borneo, Java, and Sumatra. There are two very distinct kinds, the large gibbon, few in number and restricted in distribution, and the small or ordinary gibbon, of which there are numerous varieties spread over a vast jungle or forest country. The structural differences between the siamang or large gibbon and the ordinary or small gibbon are similar in degree and in nature to those which separate the gorilla from the chimpanzee. Mankind during the greater part of the Pleistocene epoch was also separated into two distinct types—the Neanderthal and the modern. When it is remembered that the gibbons, African anthropoids, and Pleistocene man represent three successive stages in the evolution of the highest primates, it is a remarkable fact that there should be in each stage a process at work which led to a separation into two kinds, one a massive and brutal form, restricted in numbers and in distribution, and the other less brutal, widely distributed, and divided into numerous varieties or races. The siamang, the gorilla, and Neanderthal man are the representatives of the brutal type; the gibbons, the chimpanzees, and modern human types the representatives of the other.

Although size or bulk of body is, as a rule, a character of very little value in classifying animals according to their degree of relationship, this is not the case as regards the higher primates. All the very ancient monkeys are of small size. The gibbon, compared to these very early forms, is large, but when compared to man, the African anthropoids, and the orang, it is small, being only a fifth to an eighth of their size. Great size and stature of body came with the evolution of the stock of "giant" primates, which gave rise to the great anthropoids and man, probably some time before the beginning of the Miocene epoch. The small anthropoid or gibbon represents the stock from which the large-bodied primates arose. When compared to the gibbon, and especially to primitive apes, the large-bodied primates are veritable giants.

The main interest of the gibbon, from an anatomist's point of view, lies in the fact that in this ancient form those remarkable changes which adapted the body to the upright posture are already evolved. We are apt to think of the upright posture as a human characteristic, but this is not the case. It is true that in man only are the lower extremities adapted for ground progression, but these changes, remarkable as they are, are minor when compared with the transformation which we see in the body of the gibbon. The gibbon is essentially an ordinary monkey adapted to the upright posture. There can be no doubt that in all the very ancient primates the axis of the body was carried horizontally; the gibbon is the earliest known form in which the axis of the body is carried upright; in its system we see the introduction of a structural principle which served as the stepping-stone to the human posture. Few biologists have realized the extent of the structural transformation necessitated by the upright posture. The position, shape and fixation of all the inner organs had to be altered, all the contents of the thorax and abdomen rearranged. The method and mechanism of respiration was changed; the musculature of the spine and trunk had to be adapted to new posture. It was at this stage the tail became useless, its muscles modified to form the pelvic floor.* The carriage of the head, the new use of the limbs, brought about a modification of all the joints and bones of the body. Yet, although the brain and nervous system did also participate in this structural revolution, the change which took place was to such a slight degree that, by studying the brain of the gibbon, one can make a very accurate guess as to its ancestry. It came out of the stock which gave origin to the higher monkeys of South America on the one hand and to the ordinary monkeys of the Old World on the other. The period of the evolution of the gibbon dates back to soon after the separation of the fauna of Africa from that of South America, the latter continent being apparently the centre of evolution of the earliest forms of monkeys. It is believed that the separation just mentioned took place soon after the commencement of the Tertiary period. In Professor Keith's opinion, the upright posture was an extremely ancient character, having been evolved probably early in the Eocene epoch. The giant forms of primates, which we have not discovered as yet earlier than the middle of the Miocene epoch, were probably evolved in an earlier epoch—the Oligocene.

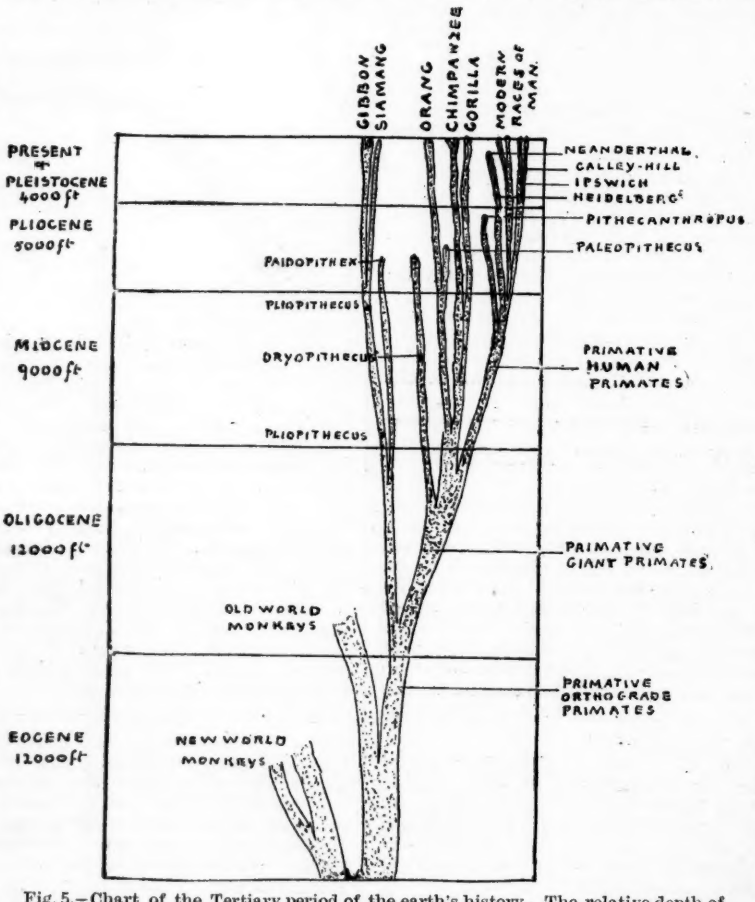


Fig. 5.—Chart of the Tertiary period of the earth's history. The relative depth of the strata of each formation is shown according to the estimates of Professor Sollas. A genealogical tree of man and of the anthropoid apes is represented on the chart. The time represented by the chart covers many millions of years.

* These changes will be dealt with more fully on a future occasion by Professor Keith.

EXTINCT ANTHROPOIDS.

The evidence obtained from an examination of extinct forms of animals closely allied to mankind supports the opinion that the antiquity of man was very much greater than has hitherto been supposed. So far only two extinct forms of great or giant anthropoids have been discovered. One of these (of which only a fragmentary palate has as yet been found) belongs to the Pliocene formations which occur along the southern foot of the Himalayas and was named Paleopithecus by Mr. Lydekker. This anthropoid is a missing link between the orang of Borneo and Sumatra and of the chimpanzee of Central Africa. It is related more nearly to the orang than to the chimpanzee. The discovery of Paleopithecus shows us that in the Pliocene period the great anthropoids had already assumed their modern size and form.

More importance must be attached to Dryopithecus, a great anthropoid which lived in the jungles of Europe during the Miocene epoch and became extinct early in the Pliocene. It was about the size of the chimpanzee, and like that animal in several features, but it differed in certain points from all the existing great anthropoids and showed features which linked it with the small and much more primitive anthropoid—the gibbon. Dryopithecus was widely spread in Europe; the most complete remains have been found in the middle Miocene formations of the south-west of France. Its teeth occurred in rather later formations in the upper valley of the Rhine and in the valley of the Danube. At least three forms of this great anthropoid lived in Europe. The molar teeth of this ape have rather a close resemblance to the corresponding human teeth. It is possible that some of the molars attributed to this animal are really human teeth, or of the Miocene stock which gave rise to man. The molar teeth are the only points in which Dryopithecus resembled man, and there was no reason to regard this extinct anthropoid more than another as a possible human ancestor.

Not only were the great anthropoids represented in Europe during the Miocene epoch, but so were the small anthropoids or gibbons. The teeth and jaws of the European gibbons of that long-past time differ from those of their modern representatives in about the same degree as the corresponding parts of a modern Englishman differ from those of an aboriginal Australian. The European gibbons, as is the case with modern Asiatic gibbons, were separated into two very distinct forms—one large in size, strong in limb and tooth; the other smaller and more primitive. The earliest trace of the European gibbon occurs in the inferior or older Miocene; but the characters of even the modern genus are so primitive in nature that we may expect to find remains of these small anthropoids in strata of a much earlier or older formation. To students of human evolution the discovery of the gibbon at the beginning of the Miocene epoch is a matter of great importance, as we know thereby that the upright or vertical posture was evolved then; how much earlier we can only guess.

Discovery of fossil remains has also thrown light on the origin of the ordinary or dog-like monkeys of the Old World. In the matter of their dentition they have become specialized, while the gibbon and man have retained a primitive form of dentition. The Old World dog-like monkeys have acquired a form of molar dentition which was new among primates. In the middle Miocene formations of Tuscany is found the remains of a fossil ape (Oreopithecus) possessing teeth which are intermediate in form to those of the gibbon and dog-like monkey.

An account of the most important and surprising discovery yet made regarding the early history of the primates was recently published (1910) by Dr. Max Schlosser. In the oldest of the Oligocene formation of the Fayoum of Upper Egypt remains of three forms of monkeys were found. Two of these Dr. Schlosser regards as close allies of South American monkeys; the other he regards as an ancestor of the Miocene gibbon of Europe. The discovery has a double importance: it shows, in the first place, that the Old World monkeys and anthropoids have, as many formerly believed, a common origin with those of South America; in the second place, it shows that the basal anthropoid stock was in process of evolution by the beginning of the Oligocene period. It is therefore possible that we may discover, as Professor Sergi asserts has already been discovered, remains of man in strata of the Pliocene epoch.

D

PRESENT POSITION OF THE THEORY OF HUMAN EVOLUTION.

In his concluding lecture Professor Keith reviewed the state of knowledge concerning the evolution of man. All the evidence indicated a very great antiquity for later phases in the evolution of the human body. More than forty years ago Sir Charles Lyell expressed his belief that the remains of man would be found in the Cromer beds of East Anglia. Although the actual bones of man have not been found in those beds, flints worked by man's hands have been discovered not only in the Cromer beds, but also beneath a deeper and much older formation—the red crag. Mr. Reid Moir, the discoverer of the pre-crag flints, regards them as being of at least early Pliocene age. The eoliths of the uplands of Kent, although of a somewhat later date than the pre-crag flints, serve better to convey an idea of the time which has elapsed since men first lived on the Kentish plateau. It is a most fortunate circumstance that these implements were first observed, and their antiquity inferred by the late Sir Joseph Prestwich—a geologist of sound judgement, and conservative in his estimates as regards the past period of man. We owe much to Mr. Benjamin Harrison for the manner in which he has developed our knowledge of these early flints. The deposit or "drift" in which the crudely worked flints or eoliths are found is mixed with fragments of greenstone and chert. The strata from which these greenstone fragments have been washed lie now in the weald 500 ft. below the level of the southern edge of the plateau. Prestwich realized that, at the time these ancient flint implements were imbedded, hills containing the greenstone strata must have occupied the position of the weald, and towered high above the level of the Kent plateau, and that after the greenstone fragments and flint implements were embedded on the plateau these hills had been gradually washed away to a depth of at least 1,000 ft. The lowlands of the weald have thus been formed since Pliocene man cut the implements now found in the plateau drift. When these facts, and the existence of a primitive form of anthropoid in the earlier part of the Oligocene period, are kept in mind, it becomes possible to believe in the existence of Pliocene man of a modern type—such as Professor Ragazzoni had discovered in the north of Italy.

Another consideration made anthropologists claim a great antiquity for modern man—in contradistinction to Neanderthal man. Mankind as seen in the world to-day—European, Mongolian, Red Indian and Australian—were most diverse in type. Their evolution from a common form demanded the elapse of an enormous length of time. In England we find the types of skulls of her most ancient inhabitants repeated in her modern population. With the exception of the Neanderthal type, all the ancient Continental forms are still to be found in Europe. From predynastic to modern times Professor Elliot Smith found that the skull of the Egyptian has changed only in detail. The oldest human crania found in America are of the Red Indian type. We are forced to believe that human evolution works slowly; yet it has effected the extraordinary contrast seen between two such representatives of the modern type as the negro of Africa and the fair-haired native of North Europe. To accomplish such a degree of divergence one must carry the history of modern man at least well within the Pliocene period. Of the survivals of ancient human forms, it is very likely that the aboriginal Australian is the best living representative of Pliocene man. From such a type one can understand the origin of the negro on the one hand, and of the European on the other. Neanderthal man was a yet earlier and, in his later development, a yet more aberrant type.

Two discoveries made in recent years appear to render it impossible to suppose that the modern type of man existed so early as the Pliocene period. The first was the discovery of the Heidelberg jaw in a stratum belonging to the oldest or first stage of the Pleistocene epoch. It was of a most primitive, brutal, and yet human character. It indicates an individual of the Neanderthal type, but of a more massive form than is found at a later date in France. If we accept the Heidelberg individual as typical of the human race of that period (early Pleistocene), then we must suppose that human evolution proceeded at a more rapid rate than we have at present any conception of. We have to remember that in the world to-day, and it has always been the case, there are types or forms representing

very different degrees of antiquity and stages of evolution. It is therefore not only possible, but probable, that the Heidelberg and Neanderthal man are survivals of a very ancient type, and in no way indicative of the stage reached by *Homo sapiens* in the Pleistocene period. Using the same manner of reasoning, it is unlikely that the man of Java (Pithecanthropus), who is very little older in date than the Heidelberg man, and has a brain capacity of only about half that of modern man, represented the highest type of man of his time. He, too, was evidently a survival of an early stage. At least, it is difficult to believe that in a single and short geological period, even allowing that the extent of that period may be a million years, man could, even in that space of time, double his brain capacity. No parallel instance of so rapid a degree of evolution can be found in the history of Pleistocene mammals.

As regards the degree of relationship between man and the great anthropoids the opinion of scientific men has changed very little since Darwin's time. Huxley regarded the structural difference between man and the gorilla as about equal in degree to that which separated the gorilla from ordinary monkeys. The divergence between the gorilla and monkey is undoubtedly the greater. It can be safely said that the brain of the gorilla represents an intermediate stage between the brains of man and of the small anthropoid (the gibbon); the brain of the dog-like monkeys represents a still lower or more primitive stage. In 1904 Professor Nuttall confirmed the inferences which anatomists had drawn concerning the relationship of man to anthropoids and monkeys. He established the fact that the blood of the great anthropoids reacts to certain tests in almost exactly the same manner as human blood; the reaction becomes less in amount when the test is applied to the blood of monkeys. The response in the case of those of the Old World is greater than with those of the New, thus bearing out the anatomists' opinion that the Old World monkeys are more recently related to the human stock than those of South America. There is also the evidence of disease. The great anthropoids are susceptible to syphilis—a human disease; monkeys can be inoculated with difficulty. Anthropoids in captivity are liable to typhoid fever, and when kept in captivity frequently die from that very human disease—appendicitis. There was no evidence that appendicitis occurred when the anthropoids lived in their native habitats and on their natural diet. Anthropoids are manifestly human as regards the nature of their diseases.

Although none of the existing anthropoids could be regarded as a human ancestor, there could be no doubt, seeing the extraordinary degree of structural similarity, that man and the great anthropoids were the products of a common stem. The gorilla shows the nearest structural approach to man. As to the time at which divergence occurred between the great anthropoid and human lines of descent no definite statement can as yet be made, but to obtain a working hypothesis it is necessary to place the point of divergence in a comparatively remote geological epoch—the Oligocene. The evolution of the great anthropoids from the small may have occurred early in the same period. The genealogical trees which have been constructed to explain the past history of the human stock are as yet little better than crude guesses to explain masses of ascertained facts of anatomy. Further discoveries will certainly cause these genealogical trees to be modified in detail, yet the sequence of events in the evolution of man's body is becoming clear. The great mass of his brain and his nude skin were evidently the latest of human acquisitions; the adaptation of the lower limbs for walking and the modification of his teeth to their present form were earlier modifications of his structure. The size of his body and his stature were still older human features, while the chief structural modifications to adapt the body to an upright or vertical posture, were of very ancient origin.

A Correction.—Professor Keith asks us to apologize for an accidental slip of the pen, which prefixed the words "the late" to the mention of Mr. Barwell's name in a footnote to the first part of the report of the Hunterian Lectures on certain phases in the evolution of man (p. 737). Mr. Barwell's name stands second on the list of Fellows of the Royal College of Surgeons of England. He became a Fellow in 1853 in the same year as Mr. Thomas Bryant, and two years after Professor P. Redfern, who is senior Fellow, his diploma dating from 1851. We are glad to know that Mr. Barwell, though retired from actual practice, is hale and well.

Nova et Vetera.

THE GREGORIES.

There is a French saying, *Ce n'est pas lui qui a inventé la poudre*, equivalent to our description of a man who will not set the Thames on fire. But there is powder *and* powder, and there is one which has made the name of its inventor in a sense immortal. This is Dr. James Gregory, whose name used to be a word of fear in nurseries owing to its association with the detested powder which he devised. A correspondent, who may possibly have suffered from a too liberal administration of the Pulv. Rhei Co., has asked for some particulars as to its inventor. James Gregory was a member of the famous family of Gregories which gave many men of high eminence in various spheres of activity to Great Britain. Their real name was MacGregor, but this was for a long time proscribed. It is curious to think that the professors of mathematics and medicine who played so large a part in the intellectual life of Aberdeen, Edinburgh, and other places during the eighteenth century and the beginning of the nineteenth should have been cousins closely related to Rob Roy, the famous freebooter. A short account of them is given by Miss Agnes Grainger Stewart in a little book entitled *The Academic Gregories*.[1]

James Gregorie, who was mediciner at Aberdeen University in the beginning of the eighteenth century, was the founder of the Aberdeen School of Medicine. It was his son that the freebooter offered to take with him and make a man of, an incident reproduced by Scott in the offer made by Baillie Nicol Jarvie to take his sons, which is related in *Rob Roy*. James Gregorie died in 1733.

He was succeeded by his son, James, who was professor at Aberdeen from 1732 to 1755. He had a hot temper, and when he gave it free scope his friends would say, "Ah! this comes of not being educated by Rob Roy." Whether this tended to soothe his irritability we are not told. He left no children, but the name survived in John Gregory, who, after receiving his preliminary education at Aberdeen, went to Edinburgh in 1742 to study medicine. After three years he proceeded to Leyden, where among his companions was John Wilkes. King's College, Aberdeen, in his absence had obligingly sent him the degree of M.D., and on his return offered him the chair of philosophy, which he held from 1747 to 1749. At the same time he engaged in general practice as a physician. In 1754 he resolved to seek his fortune in London; in 1756, however, the death of his brother James having left the chair of medicine in Aberdeen vacant, he was appointed to it. But there were no students to teach, and the Aberdeen degree was a laughing stock, a state of things which chafed his proud spirit. His wife died in 1763, and in the following year he was invited to go to Edinburgh. There he was very successful in practice, and in 1766 he was appointed to the chair of the practice of physic, and was made first physician to the King for Scotland. He was the author of a *Comparative View of the State and Faculties of Man with those of the Animal World*, *Lectures on the Duties and Qualifications of a Physician*, *Elements of the Practice of Physic*, a textbook which he did not live to finish, and other works. He died suddenly in the middle of the session 1772–73, and the university authorities were at a loss how to arrange for the continuance of the lectures. His son James, the inventor of the powder, though only a student, offered to lecture till the end of the term, and extraordinary as it may seem, this proposal was gratefully accepted.

James Gregory was born at Aberdeen in 1753, and received his early education there. Afterwards he went to Oxford, but he cannot have remained long there, for he returned to Scotland and began his medical studies in 1767. After enlarging his experience at St. George's Hospital, London, he took his doctor's degree at Edinburgh in 1774, the subject of this thesis being *De morbis coeli mutatione medendis*. In it he advocated the advantages of change of air in prolonging life, and dealt in detail with phthisis, hypochondriasis, and gout. He afterwards pursued his studies on the Continent, and in 1776 he was elected to the chair of the Institutes of

[1] In the Famous Scots Series, published by Oliphant, Anderson, and Ferrier, Edinburgh and London, 1901.

Medicine. The appointment would nowadays be described as a job, but Gregory was very successful as a teacher, his classes growing steadily all the time of his professorship. The number of medical students grew from about twenty in 1776 to a hundred and sixty in 1827. Gregory wrote little on medicine, though his *Conspectus Medicinae Theoreticae* was long used as a textbook, passing through many editions and being translated into English and several other languages. He was also the author of a *Theory of Moods and Verbs* (1787) and of *Philosophical and Literary Essays* (1792). Moreover he posed and apparently was accepted as a critic of poetry, and the observations with which he favoured Robert Burns on some of his poems are amusing to a reader of the present day, though the poet complained that the medical Zoilus "crucified" him. It is a testimony to the respectful awe which Gregory inspired that the poet did not crucify him in return, as he might so easily have done.

In 1790, when Cullen's health was failing, Gregory was appointed joint professor with the right of succession. In the same year Cullen died, and Gregory become sole incumbent. What he was as a teacher may be learnt from what Sir Robert Christison says of him in his *Autobiography:*

> Equal in fluency as in choice of language he surpassed all lecturers I have ever heard. His doctrines were set forth with great clearness in the form of a commentary on Cullen's first lines of the *Practice of Physic*. His measures for the cure of disease were sharp and incisive, in acute diseases there was no *médecine expectante* for Gregory. He somehow left us with the impression that we were to be masters over nature in all such diseases that they must of necessity give way before the physician who is early enough and bold enough in encountering them.

It is curious to compare this characterization with Gregory's own opinion of the science and art of medicine as expressed in his book about the management of the Royal Infirmary.[1] He says:

> Much more than ninety-nine parts in the hundred of all that has been written on the theory and practice of physic for more than two thousand years is absolutely useless and unworthy to be known but as a matter of curiosity or as a miserable example and warning of the worst errors to which we are prone.

He goes on to say:

> A large proportion of those writings consist of controversies generally carried on with the bitterest animosity.

Clodius accusat! Further on he says of himself:

> He has not had wisdom enough to keep himself out of all disputes and controversies, even in science; and in those wherein he has engaged, he has been abundantly acrimonious; as his opponents (probably) would be ready to certify upon oath: or if they should not, it is of little consequence: the fact may be established without their help, or in spite of them. But hitherto, notwithstanding all temptations, and provocations, and plenty of bad examples, he has escaped the folly of any medical disputes or controversies; not by any superiority of understanding, for he knows that men, much wiser and abler, and more learned than he is, have fallen into that folly; but by his strong sense of ridicule, which on that point was to him irresistible. From his earliest youth he was admitted behind the curtain, and let into the secret of the medical drama. Having acquired a little notion of some other sciences, and of science in general, before he engaged in the study of physic he was from the first both mortified and entertained with the contrast which he saw. He soon perceived that, with respect to physic, each successive age has much more trouble to unlearn the bad, than to learn the good, of those which went before it, and still more to distinguish between the good and the bad which itself produced. After two-and-thirty of the best years of his life spent in learning, in teaching, and in practising physic, he has found much to confirm, and nothing to shake that unfavourable opinion of his own profession, and of a vast majority of those who have taught and practised it. Being a great philosopher, of the sect of Democritus, he thinks it much wiser, as well as pleasanter, to laugh than wither to cry or be angry at such things; and as he would have thought it in others, so in himself he would think it perfect Quixotism and truly a kind of Knight Errantry, to attempt to set everybody right; knowing well that not one in a thousand chooses to be set right. He would as soon think of building a magnificent dwelling house on the Goodwin sands, as of building his fame on a work of medical reasoning or medical observation; even if literary fame were, what it is not, the chief object of his ambition. He never could propose to himself either honour or advantage in telling fifty of his contemporaries and 500 of his predecessors, though in the civilest manner and only by implication, that they were knaves and fools, liars and quacks, or in being told the same in equally civil, or perhaps in plain terms, by many of his cotemporaries. He never had the vanity to suppose that his talents were greater, or that his efforts would be more successful in medical science, than those of many hundreds of his cotemporaries and many thousands of his predecessors, or to think that any addition which he might make to it could bear a sensible proportion to the whole stock even of real medical science. He has studied medical systems, and reasonings, and observations till he was sick, and tried many dozens of boasted but very useless remedies till he was ashamed of what he was doing. But far from exclaiming "All is vanity" and giving up the point in despair, his chief object, both in the teaching and in the practice of physic, has been to separate the little that he found true and useful from the vast mass that he found erroneous and useless, or worse. He knows many of the peculiar difficulties which have hitherto retarded the progress of medicine, and many of the causes which have produced the worst corruption of it. He is convinced that none of these are hopeless, and is confident that the science of medicine will yet make great and happy progress. The great Volume of Nature lies open to Physicians of every sect, and every opinion; but they must learn to read it fairly, like men of science, who seek for truth alone; not perversely, like disputants contending for victory; or, as some wrong-headed sectaries seem too often to have read the Bible, each most absurdly assuming the dangerous and wicked principle, that

> His liber est in quo quaerit sua domata quisque;
> Atque in quo reperit dogmata quisque sua.

It is amusing to find Gregory complaining of the controversial spirit of his professional brethren, for he was a man of most violent temper, and quarrelled with his colleagues, one of whom he assaulted with a stick within the precincts of the university. For this he had to pay £100 damages, and it is recorded that he said on paying his fine that he would willingly pay double for another chance. With the managers of the Royal Infirmary he carried on a bitter feud, waged in a style that shows the hot blood of the MacGregor throbbing through the academic veneer of the professor. Notwithstanding these flashes of irritability he had a large practice, and he was physician to George III and also to George IV, besides being President of the Edinburgh College of Physicians.

As regards his treatment, it may be said of him that in a sanguinary age he was less free with the lancet than the bulk of his brethren, and that he urged a liberal dietary in certain stages of consumption, but it is his famous powder that probably has kept his name alive more than anything else. As he was fond of Latin quotations he might have applied the lines from the Fourth Georgic to his invention, with reference to intestinal disturbance,

> Haec certamina tanta
> Pulveris exigui jactu compressa quiescent.

When Gregory died in 1820 there was great mourning among his friends, and the town gave him a public funeral. Over his grave is the following inscription: "*Vir priscae virtutis, per omnes vitae gradus et in omni vitae officio probatissimae.*"

[1] *Memorial to the Managers of the Royal Infirmary, MDCCC.* Second edition. Edinburgh. 1803.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

A CURE FOR TOBACCO HABIT.

WE reported recently on certain "cures" for alcoholism, and one of those described was supplied by E. J. Woods, Ltd., London. It is claimed to cure inebriety and the craving for alcohol in three days with a "treatment" by which E. J. Woods is stated to have cured himself in that time, after having been a heavy drinker for many years. Recently advertisements have been appearing in newspapers and magazines over the name of E. J. Woods (the "Ltd." does not appear) offering a three-day cure for tobacco habit. One of these is worded thus:

> TOBACCO HABIT
> Conquered in 3 Days.
> I offer a genuine guaranteed Remedy for tobacco or snuff habit, in 72 hours. It is mild, pleasant, strengthening. Overcomes that peculiar nervousness and craving for cigarettes, cigars, pipe, chewing tobacco, or snuff; they are poisonous and seriously injurious to health, causing such disorders as nervous dyspepsia, sleeplessness, gas, belching, gnawing, or other un-

* Previous articles of this series were published in the following issues of the BRITISH MEDICAL JOURNAL: 1904, vol. ii, p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i, pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i, pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928; 1911, vol. i, pp. 26, 91, 823, 1324; vol. ii, pp. 32, 77, 456, 767, 854, 1543; 1912, vol. i, p. 26, 141, 318, 438, 683.

comfortable sensation in stomach; constipation, headache, weak eyes, loss of vigour, red spots on skin, throat irritation, asthma, bronchitis, heart failure, lung trouble, catarrh, melancholy, neurasthenia, impotency, loss of memory and will-power, impure (poisoned) blood, rheumatism, lumbago, sciatica, neuritis, heartburn, torpid liver, loss of appetite, bad teeth, foul breath, enervation, lassitude, lack of ambition, falling out of hair, baldness, and many other disorders. It is unsafe and torturing to attempt to cure yourself of tobacco or snuff habit by merely stopping—don't do it. The gentle, safe, agreeable way is to eliminate the nicotine poison from the system, strengthen the weakened irritated membranes and nerves, and genuinely overcome the craving. You can give up Tobacco and enjoy yourself a thousand times better, while feeling always in robust health. My Free book tells all about the wonderful 3 days' method. Inexpensive, reliable.

The "Free book" is entitled: "How to Speedily and Perfectly Conquer the Tobacco Smoking and Chewing Habits, also the Snuff Habit"; it is a pamphlet of thirteen pages, chiefly devoted to describing the awful effects of the use of tobacco, and evidently intended to impress the reader and enlist his terrors to aid the "cure."

A few extracts will suffice as samples:

Nicotine is one of the most intense of all poisons, approaching in its strength the highly powerful prussic acid.

The other important element is an oil called *nicotianin*; probably this is Shakespeare's "juice of the cursed henbane," mentioned in "Hamlet." This is also an intense poison. . . .

There are several kinds of cigarettes that are prepared with opium, cannabis indica (hasheesh), or cocaine. Thus, another very insidious and killing poison is taken into the system.

The muscles as well as the nerves become poisoned by nicotine.

The effect of tobacco upon the nerves and muscles of the eyes is a reason why oculists and opticians flourish.

Tobacco causes enfeebling of the mind and too often it leads to insanity.

. . . tobacco is a frequent cause of heart failure and premature death.

I have been told by medical men that there is a belief, becoming better founded from year to year, that tobacco is a cause of appendicitis.

Falling of hair, followed by baldness, also the turning of dark hair to grey shade, is due very often to the poisoning of the blood and nerves by nicotine.

The nicotine must be removed from the blood, muscles, nerves, membranes and all other parts of your body. Do not waste time in trying to accomplish this by the power of the will. No doubt you can make a gallant fight, but the poison will remain and will continue to do its mischief, like the uric acid of the rheumatic.

Thus far, over two hundred cases of leprosy in the United States have been traced to cigarette smoking.

A paragraph headed "A Deadly Weed" gives a list of rather more than a hundred disorders of various kinds, with the statement that "no tobacco user can escape one or more of the harmful consequences mentioned in the list." They are of very miscellaneous nature, "anxiety" and "softening of the brain" standing together, and "cowardice" coming between "amaurosis" and "apoplexy."

There are two forms of the treatment, at the same price:

The cost of the Woods C Treatment is one guinea. The result is absolutely guaranteed. All craving for tobacco in any form should be completely eradicated and in most cases this result will be accomplished in only seventy-two hours.

My C Treatment (regularly) for the Tobacco Habit is to be taken by the person who desires to be cured. Obviously, he knows that he is taking it.

I am asked sometimes, if I can provide a Treatment which can be given without the tobacco user's knowledge. Yes, I can. This is my C Secret Treatment. It can be given secretly in any kind of food or drink. It is tasteless. The person finds that he is losing his desire for tobacco and soon abandons its use altogether. The price of this C Secret Treatment is one guinea, the same as the regular C Treatment.

The "treatment" was accompanied by a letter, in which it was stated that "the preparations are very potential," and a postscript runs thus:

I would appreciate a testimonial from you, to add to the great collection that I am compiling. I hope you will see your way clear to send this.

The materials sent consisted of seven different kinds of tablets, and one lot of pills; these bore various numbers, as follows:

No. 301: 7 small pink-coated tablets.
No. 302: 64 small brown tablets, not coated.
No. 303: 15 small pink-coated pills.
No. 304: 6 chocolate-coated tablets.
No. 305: 4 small grey tablets, not coated.
No. 306: 10 grey tablets, not coated.
No. 307: 2 small black-coated tablets.
No. 308: 17 chocolate-coated tablets.

Since in every case one is directed to be taken for a dose, the total includes 125 doses for the 72 hours requisite for the cure; the elaborate 3-day time table sent, however, only provides for one to be taken at every hour from 7 a.m. to 10 p.m., and one on awaking in the morning and one at bedtime, and "if awake in the night or early morning, a No. 302 tablet may be taken each two hours. To induce sleep, if necessary, take one No. 304, followed by another in half an hour"; so that if five are taken during the night, just seventy-two doses are directed. For the first twenty-four hours the order of taking, beginning at 7 p.m., is 301, 302, 303, 302, 303, then the night interval, 303, 308, 301, 302, 303, 302, 305, 302, 306, 302, 301, 302, 305, and it is different for the second and again for the third twenty-four hours.

Every dose is to be followed by a medium size glass of hot or cold water (to be sipped), Vichy or soda with milk, or buttermilk. Take Nos. 303, 304, 306, 307, and 308 whole. Chew No. 301 before swallowing. Dissolve Nos. 302 and 305 in a small glass of water.

Nos. 302, 303, 306, and 308, of which the supply was the largest, were analysed as fully as possible; for the others, the small quantity available did not permit of much more than a qualitative analysis. The results obtained were as follows:

No. 301 (to be chewed before swallowing).—The average weight of one tablet after removal of the coating was 1.28 grains; the principal ingredient was phenol-phthalein, and a resin which appeared to be podophyllin; no other active substance was found.

According to the directions, three of these are to be taken in the first twenty-four hours, two in the second, and four in the third: this makes a total of nine, but only seven were sent.

No. 302 (to be dissolved in water before taking).—The average weight of one tablet was 1.28 grains. Analysis showed the presence of sugar of milk 63 per cent., a brown dye, and a very bitter non-alkaloidal extract resembling extract of quassia, which it probably was. No other substance was found except a little talc; it was not possible to determine the amount of the bitter extract or of the dye.

According to the directions, seven are taken during the daytime in the first twenty-four hours, seven in the second, and four in the third, and three during each night if awake. There is, therefore, a large surplus of these in the supply sent.

No. 303 (pills).—The average weight of one pill after removal of the coating was 0.9 grain. Analysis showed the principal constituent to be aloin, with a small proportion of strychnine. According to the directions, four of these are to be taken in the first twenty-four hours, three in the second, and one in the third.

No. 304 (to be swallowed whole).—The average weight of one after removal of the coating, was 4.4 grains. Analysis showed the principal constituent to be asafoetida; in addition, a minute trace of an alkaloidal substance, which was far too small in amount to be examined, but which was not strychnine, was present, and no other medicinal substance was found.

These are the tablets to be taken during the night, if necessary, to induce sleep.

No. 305 (to be dissolved in water before taking).—The average weight of one was 2.5 grains. Analysis showed that the principal ingredient was reduced iron, with a trace of a bitter alkaloid which appeared to be strychnine. The greater part of the tablet being insoluble in water, the direction to "dissolve" it before taking cannot well be carried out.

According to the directions, two of these are to be taken in the first twenty-four hours and one each in the second and third.

No. 306 (to be swallowed whole).—The average weight of one was 3.7 grains; analysis showed the presence of ferrous carbonate, potassium sulphate, strychnine, and brucine, with dextrin, glucose, and starch; it was thus a form of Blaud's pill with extract of nux vomica. The alkaloids amounted to 0.16 per cent., representing about 2 per cent. of extract of nux vomica, or about $\frac{1}{13}$ grain in

one tablet; the iron was 9.7 per cent., representing 20 per cent. of ferrous carbonate, or about ¾ grain in one tablet.

According to the directions, one of these is to be taken in the the first twenty-four hours, four in the second, and five in the third.

No. 307 (to be swallowed whole).—One tablet weighed 2 grains, including the thin coating. Analysis showed the principal constituent to be a blue dye which agreed in its general characters with methylene blue. The only other substance found was a little starch.

According to the directions, one of these is to be taken about the middle of the period of seventy-two hours and the other just before its close.

No. 308 (to be swallowed whole).—The average weight of one, after removal of the coating, was 3.7 grains. Analysis showed the tablets to contain chalk 36 per cent., charcoal 20 per cent., sugar 26 per cent., and a trace of methyl salicylate (oil of wintergreen); the only other constituents found were small quantities of gum and talc, used, no doubt, as excipients.

According to the directions, one of these is to be taken in the first twenty-four hours, none in the second, and three in the third.

It appears very evident that suggestion is intended to play a considerable part in the treatment. The booklet is written in such a way as to strike an impressionable reader with a strong conviction of the terrible results to be expected if the tobacco habit is continued, and the emphatic guaranteeing of a cure in a very short time would, no doubt, assist the patient's determination to give it up. The medicines having to be taken every hour, sometimes chewed, sometimes swallowed whole, and sometimes dissolved, would ensure the mind being kept well occupied with the cure; and the full directions include the use of an enema daily, dieting, breathing exercises, bathing, etc. The medicines themselves appear to be of three classes—aperients, tonics, and those intended to produce a subjective effect like asafoetida and methylene blue, the colouring effect of which on the urine might perhaps lead the patient to ask an explanation or to guess for himself that the colour "shows the nicotine being driven out of the system."

A further set of remedies, the "E set," price £2 2s., is recommended to be taken immediately after the C set, and is "intended to assist the natural recuperative powers so that the full benefit of having taken the other treatments shall be more speedily manifested."

As the small amount of material available prevented the analysis of some of the products being made quantitatively, it is not possible to estimate exactly the cost price of the ingredients, but it is evident that a few pence would fully cover it.

Although three of the different kinds of products contained strychnine, none of the packages bore any intimation of the fact, or the word "Poison."

LIFE ASSURANCE FOR MEDICAL MEN.

PROBABLY most medical men sooner or later take out life assurance policies of one kind or another, but they often find it difficult to decide upon the form of policy best suited to themselves.

The business of life assurance has learnt to adapt itself to the conditions of modern life, and there is no longer any reason for the deeply-rooted fear—handed down from our grandfathers' generation—of paying premiums in old age on reduced income. Unfortunately the numerous schemes set out by insurance offices are not always very helpful to the would-be insurer, and the result is that a form of policy is often chosen unsuited to the requirements of the case.

Choice of Endowment or Life Policy.

The first contract of insurance entered into by a man of 25 is probably an endowment assurance maturing at the expiration of twenty or twenty-five years. The attractions of having the sum assured payable during lifetime are too great to be resisted. The old-fashioned life policy—premiums payable throughout life—is rejected because of the assured's belief in his own longevity and the fear that premiums will continue to be payable in old age.

For family provision, which usually is or should be the primary object of life assurance, there is still, however, nothing superior to the simple whole-of-life policy—no longer old-fashioned except as to its object, but modern because of its elasticity and the many options granted to the assured. By paying a very little more the annual payments on this policy can be limited in number from the start; they can be reduced and finally extinguished at or about the pension age by the operation of the bonus, or single extra payments can be made at any convenient times for the same purpose.

The ultimate cost of a whole-life policy can be ascertained at the outset, as in an endowment assurance.

On the other hand, it may be argued that the superiority of the endowment assurance lies in the fact that the sum assured is payable during lifetime. True, the holder of an endowment policy handles his capital if he survives, but unless he is prepared to spend it, only the income resulting from its investment is available. In this respect his position is not overwhelmingly superior to the life policy holder whose capital is securely locked up for the benefit of his dependents, and whose policy, once the premiums are extinguished, also produces an income in the shape of bonuses which can be drawn in cash. Whilst the life policy yields less to the assured in his old age it has provided a far greater measure of protection during the most important and most hazardous years of working life, and in this way has more adequately met the wants of the professional man dependent upon his earned income. Officials of insurance offices will more often than not take the line of least resistance, and if the public show a preference for an endowment policy, an endowment policy will be supplied.

A life assurance contract is made up of two important parts—protection and savings, that is, accumulation of premiums. In one form of policy the protection element is emphasized; in another the savings element predominates, and it is only possible to increase the savings payable in old age by taking away from the protection benefit.

Let the prospective assured carefully consider which is of greater importance—the successful accumulation of a sum of money payable at the end of a period which may or may not be survived, or immediate adequate protection against premature death, for herein lies the answer to the question, Which is the most suitable policy for medical men?

If responsibilities have been incurred, then the necessity of life assurance must be more pressing in the early years before savings have been accumulated or legacies inherited.

The requirements of old age, always an unknown quantity, can be and often are provided for by the exercise of thrift during the later stages of life. The demands for the protection of life assurance are, on the contrary, never more urgent than when they first become manifest.

In the majority of cases, therefore, the first requirement is a whole-life policy, the amount of protection under which will be as 25 to 50 per cent. more than that secured under the endowment policy.

Circumstances alter cases, and the broad principles outlined above cannot be expected always to apply. Suffice it to say that, whilst the endowment policy is a modern product, and in some respects very attractive, the whole-life policy has stood the test of time, and has been so improved in its form as to supply nearly all the wants which called the endowment policy into being.

Age for Beginning Insurance.

In any attempt to define the most suitable policy, the question necessarily arises as to the best age for effecting life assurance.

If there be any doubt as to what form of policy is suitable in a particular case, there can be no two opinions as to the age when the benefits of life assurance can be secured on the most advantageous terms.

For many years past there has been considerable and not unnatural prejudice against assurances effected upon children's lives, but such prejudice does not apply to modern developments as illustrated by thrift and deferred assurances.

From every point of view there are obvious advantages in securing the benefits of life assurance before they become a necessity.

In childhood and youth the risk of ineligibility on personal grounds is relatively small, the possibility of

incurring extra risk on account of occupation or foreign residence is practically unknown, and cannot therefore be charged for, whilst advantage is taken to the fullest possible extent of the fundamental principle appertaining to all insurance business of spreading the cost over as many years as possible.

The risk of ineligibility in adult life will be recognized by members of the medical profession, for those intimately connected with the inner working of life assurance know the keen disappointment experienced by young men who find themselves uninsurable—oftentimes just prior to marriage.

To take a concrete example. An annual outlay of £8 or £9 for a £1,000 whole-of-life policy, on behalf of a boy aged 1 is a sound and profitable family investment, providing at a very small cost an assurance which will almost certainly be needed at some future time.

The cost of a policy effected on behalf of an infant may be compared with one effected at the age of 30. The expectation of life at the latter age is about 35 years.

World-wide Policy.

(1) Age 1 next birthday. Assurance commencing at age 21.	(2) Age 30 next birthday.
£8 17s. 6d. per £1,000 with profits.	£24 5s. 10d. per £1,000 with profits.
At age 65 £576 17s. 6d. has been paid in premiums.	*At age 65* £850 4s. 2d. has been paid in premiums.
Sum assured and bonus £1,830.	Sum assured and bonus £1,675.

Here the important axioms of spreading the cost over as many years as possible by effecting the policy early in life and securing a world-wide policy which can never be altered are all satisfied, and the cost in actual hard cash is certainly appreciably less.

Not only, however, is such a policy inexpensive, but it may have a natural stimulus to the child's own interest in thrift, the inculcation of which may have very far-reaching and beneficial effects.

It is safe to prophesy, therefore, that deferred assurances, coming into full force at age 21 or 25, effected by parents for the benefit of their infant sons, will form a large and important part of the life assurance business of the future.

The Medical Insurance Committee are in a position to allow a substantial reduction off the first annual premium, and will be pleased to give every assistance and advice to its members on the subject of life assurance. Rates of premiums and full particulars will be forwarded on application to the Secretary, Medical Insurance Committee, 429, Strand, London, W.C.

LITERARY NOTES.

WITH reference to a note on the French obstetrician, Levret, which appeared in the JOURNAL of March 30th, p. 746, Sir A. R. Simpson has sent us a copy of an introductory lecture delivered by him, reprinted from the *Scottish Medical and Surgical Journal* of November, 1902. It is entitled "Paget, Virchow, Levret, and the Priceless Power of Knowing a Foreign Language." Speaking of the International Congress of Obstetricians and Gynaecologists which had been held in Rome a short time before, he says he travelled from Paris to Rome in the same compartment of a sleeping car with Professor Pinard. In an address on the evolution of the midwifery forceps, delivered two years before, Sir Alexander had expressed the hope that some French physician would write a life of Levret worthy to compare with the *Life of Smellie* by Professor Glaister. Pinard then told him that in 1866 Tarnier had given a lecture on the subject. Varnier afterwards published an article on him in the *Annales de gynécologie*. In 1768 Levret reigned undisputed master in his own field, and was gradually narrowing his sphere of work. In 1770 and 1771, however, he was stirred into fresh activity by the appearance of a possible rival—Solayrès. During that St. Martin's summer of intellectual life Levret not only lectured assiduously, but produced seventeen memoirs. In 1772 Solayrès was prematurely carried off by laryngeal phthisis, and Levret's outburst of renewed energy gradually died down. He handed over his museum to his son-in-law Destremeau, whom he took into partnership in his practice. He continued to attend some members of the royal family, and, according to Varnier, seems to have retained all his powers and faculties. Varnier reproduces his will, which was signed on January 17th, 1780, five days before his death:

> He commends his soul to God, and prays for mercy through the infinite merits of our Lord Jesus Christ; leaves to his widow, whom he appoints as executrix, to see to his funeral, recommending the greatest Christian simplicity; leaves her to judge also what prayers should be said for the repose of his soul, and what alms should be given to the poor. He leaves 1,000 livres to his wife's maid, for a recompense for the care they had enjoyed at her hand, and takes care that his heirs charge nothing for board and lodging to a lawyer who had come at his request to stay with him. His goods are divided equally between his son and daughter, whom he recommends always to treat their mother with the greatest deference, respect, and affection. And though it be contrary to law for husbands to make dispositions in favour of their wives, he expects that it will be quite agreeable to his children that he leave to his dear wife the ring with four white diamonds presented to him by the Countess d'Artois.

"Posterity," says Varnier, "has not followed the public of 1780; it knows nothing of Destremeau."

Dr. H. Drinkwater of Wrexham asks as to two English writers on obstetrics in the eighteenth century—Benjamin Pugh and Robert Wallace Johnson. Pugh was a general practitioner at Chelmsford, and gained considerable repute as an obstetrician by his *Treatise on Midwifery* (London, 1748), in which he related a number of cases in which he used the forceps; he also laid down the principles of artificial delivery. Pugh was also the author of *Observations on the Climate of Naples, Rome, and Nice, etc.* (London, 1784). Of Robert Wallace Johnson, author of *A New System of Midwifery* (1769), we regret to be unable to supply any information.

Confetti, usually associated by most people with nothing more serious than carnival or the Mi-Carême, have recently been condemned by the medical profession as propagators of disease. It is true that in England they are almost exclusively reserved for the amusement of wedding parties, but abroad their use is far more general, and M. Emile Gautier, writing in the March number of *L'Hygiène*, comments upon the large number of lung, skin, and eye troubles which invariably follow the celebration of a public holiday in Paris, and which are undoubtedly the result of the indiscriminate confetti throwing so beloved of Parisians. Even as the confetti emerge from the bag, remarks M. Gautier, they are by no means so harmless as they appear, though, naturally, they are then far less dangerous than they become a few hours later, when they have changed hands countless times, and unlike the rolling stone of the proverb, have gathered fresh infection at every stage of their journey. Recent investigations have proved that these little paper pellets are capable of scattering broadcast the germs of tuberculosis, tetanus, influenza, pneumonia, and many other ills that flesh is heir to; and the fact that eight guinea-pigs which a short time ago were inoculated with the bacilli of confetti gathered from the Place de l'Opéra promptly died of the effects should in itself be sufficient to warn the public of the dangers arising from this particular form of social diversion. Another and even more fruitful source of infection, particularly during the season of Lent, is the fish supplied by the markets of inland cities. This, owing to the difficulties of transport and the fluctuations of temperature, frequently arrives at its destination in a state unfit for human consumption, and, being sold as fresh, causes an infinite amount of discomfort and suffering. The same number of our excellent contemporary contains some useful hints from Dr. V. Ch. Lefèvre concerning the detection of tainted fish and the different means of preserving it; whilst M. Francis Marre has done the same service with regard to eggs. The number also contains a short article on mountain sickness by M. Henri Meurisse, and an interesting discussion by Dr. Nathalie Fedoroff on the experiments of Darwin and Duchenne (de Boulogne) in connexion with the facial expression of the emotions in the human being.

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PROGRESS OF MEDICAL RESEARCH IN INDIA.

IN the recent Budget debate in the Imperial Legislative Council at Calcutta Sir C. P. Lukis, I.M.S., laid on the table a memorandum on the sanitary measures taken during the year 1911-12, and made a statement on the research work which is now being carried on in India. A grant of 10 lakhs (£66,000) has been made for this purpose, half of which goes to the Indian Research Fund, which was started last year with a similar grant. The allocation of the money is in the hands of a strong committee, which decides on what investigations shall be carried out, and has complete control of the funds. In this way it is hoped to ensure continuity of work. To the central research laboratory at Kasauli Rs. 50,000 have been allotted, and arrangements are being made for the separation of the important and growing work of the preparation of serums and vaccines from the purely research work. Two lakhs will be expended on the Parel laboratory at Bombay for the extension of research work and the commencement of post-graduate teaching in bacteriology, while an equal sum is allotted to the proposed Pasteur Institute at the hill station of Mymayo in Burma. In addition to these sums, 5 lakhs have been granted from Imperial funds for building the extension of the pathological laboratory of the Calcutta Medical College to enable the proposed Tropical School of Medicine to be started at that great hospital, which should in time be second to no such institution in the world. Altogether, in these times of financial stringency, it is clear that medical research in India is being dealt with not illiberally.

In his interesting speech Surgeon-General Sir C. P. Lukis gave a very satisfactory account of the research work now in progress in India. Noteworthy advances have been made in the practical study of malaria by the discovery of Liston, McKendrick, and Bentley, that this disease in Bombay is carried mainly, if not solely, by a domestic mosquito living in wells of private houses, and does not arise from the swamps around the city; while Christophers has shown that in the Andaman Islands the carrier is practically limited to a species inhabiting brackish water in the creeks of the islands. These discoveries immensely simplify the problem of preventing malaria in these places by making it possible to limit the measures necessary to the destruction of the incriminated mosquito. Unexpected difficulties have arisen owing to the strange attitude of Parsi doctors in Bombay in opposing the necessary measures for dealing with the private wells which are found to be responsible for malaria in that city, but this opposition, it may be expected, will not long be maintained. Mosquito surveys have been made in several towns, and measures for destroying the malaria-bearing mosquitos will now be undertaken. The Malaria Conference of 1909 has thus borne good fruit.

Arrangements have been made for utilizing the Indian Research funds on two special investigations. The first is on the deadly kala-azar, which in many parts of India causes far more suffering and loss of life even than malaria, with which it was for so long confused. The recent announcement that Captain Patton has succeeded in proving the theory of infection through bed bugs—which was put forward by Rogers as a result of his successful culture and development of the flagellate stage of the organism—will greatly facilitate this inquiry, which will be in the capable hands of Patton and Mackie. The other research will be on the bacteriology of cholera, to determine the life-history of the comma bacillus outside the human body, and to work at the carrier problem. Major Greig and Captain Hodgson will undertake this inquiry on lines worked out by the Director of the Kasauli Laboratory and Major Leonard Rogers.

In addition to these investigations the far-sighted policy is being adopted of being prepared beforehand against the possible extension to India of the two great scourges of Africa and the West Indies—namely, sleeping sickness and yellow fever. An entomological inquiry is to be carried out; it will include a study of biting flies, which might conceivably carry the *Trypanosoma gambiense* if it should chance to reach India; while Major James has been deputed to study yellow fever in its haunts, and a survey of all the Indian ports is being made for the presence and breeding places of the *Stegomyia*, the insect which carries the infection of this disease, in order that they may be dealt with before the opening of the Panama Canal increases the danger of an invasion of India by the disease. The investigations of plague, which have thrown so much light on that affection, are being continued under Major Glen Liston, and during the last year it has been found that certain provinces which have been very little affected by the disease owe their immunity either to scarcity of rats or to unfavourable conditions for the multiplication of fleas, thus affording one more proof of the truth of the theory of infection through the rat-flea.

In addition to all these valuable researches, it has been announced in the Budget speeches that a scheme for the reorganization and improvement of the sanitary services in India has been submitted to the Secretary of State for approval, while during the last two years sanitary works have received no less than 115½ lakhs from Imperial funds, exclusive of 75 lakhs spent in Bombay.

THE TEACHING OF OPERATIVE SURGERY.

WE have recently reviewed some works on operative surgery, both general and special, and the occasion seems fitting to discuss some of the side issues which present themselves in connexion with this branch of surgery.

Perhaps the first question that may reasonably be put is whether the teaching of operative surgery as it is generally conducted is of any real value. In most student classes the demand for subjects far outstrips the supply, so that the student can only do a certain proportion of the operations on the list, while he plays the part of assistant at the others. In some schools the whole subject is crammed into ten days, with the object of making the student concentrate his thoughts and concentrate also the sensations of his hands and fingers. This plan is probably an

improvement on the old one of spreading the class over a six or eight weeks' term, apart altogether from the state of preservation or otherwise of the subject at the end of the term.

The importance of the teaching of operative surgery to students may be overrated. Operations on an injected and preserved subject are totally different procedures from operations on the living body, and have as little interest (and bear very much the same relation) as the continuous monotonous practice of scale passages and finger exercises on the piano to the student of that instrument. Operative surgery might very well be taught in the dissecting room under the designation of "surgical applied anatomy," along with drill in surface anatomy on the living subject. Anatomy would be more interesting and practical to the average student. Operative surgery as such is a very different matter when taught to post-graduate classes or to men holding junior hospital appointments. They have already done more or less operating work and want more practice. Now, to these men practice is valuable, but not, perhaps, so valuable as is sometimes thought. Little good can result from the performance on the cadaver of excision of a normal wrist-joint or removal of a normal upper jaw beyond some revival of anatomical knowledge which will prove of some, but not very much, use when the operation is to be performed for tuberculous disease in the one instance or for sarcoma in the other. As for intestinal operations, the practice obtained in operating on the cadaver is of little value, owing to the changes in the intestinal walls due to putrefaction or to injection with preservative materials, and can be gained much more satisfactorily on bovine intestine obtainable from any slaughter-house in a large city within a short time after the animal has been killed.

There is another aspect of this subject of the teaching of operative surgery to be considered. Operations on the extremities form the major part of the work of the operative surgery class, but such operations are diminishing in frequency every year. Excisions of tuberculous joints are now performed comparatively seldom, thanks to the success following the adoption of conservative measures such as Bier's passive hyperaemia, injection of iodoform emulsion, and the direct exposure of uncovered tuberculous joints and bones with sinuses and mixed infection to the sun's rays in both winter and summer which has met with such wonderful success in Switzerland. Amputations, too, tend to follow the broad rule of cutting the coat according to the cloth, with due regard to surgical principles. An amputation is not the classical operation it used to be, and we make bold to say that many a hospital surgeon could be "ploughed" in an examination on the amputations of the foot and leg associated with the names of Hey, Lisfranc, Pirogoff, Ssabanieff, Carden, Chopart, Tripier, and the others. There seems good reason, then, for unloading the student's burden thus far, and cutting out of our textbooks much that is merely of historical interest.

The same argument holds good in regard to the ligature of the smaller vessels. Ligature of the anterior tibial, for instance, is never likely to be anything but a surgical exercise. The exposure and tracing of the course of nerves appeals much more to both the student and the practitioner.

But there are other aspects of operative surgery on the living subject to which attention should be drawn. In several recently reviewed textbooks each of the authors had introductory general chapters on anaesthesia, preparation of the patient, preparation of the operator and his materials. Kocher of Berne holds strong views on these matters, and again and again insists that it is necessary for the surgeon to be more than a mechanical worker; how he must be at one and the same time a pathologist, a bacteriologist, an anaesthetist, and a surgeon. This is not the time to discuss the anaesthesia question, but undoubtedly freedom from anxiety on that score goes a long way to promote efficiency in operating. Manipulative procedures may only be carried out with confidence and ease when the mind can concentrate itself on the operation field. Strict asepsis has reduced operations as nearly as possible to the certainty of result of a chemical experiment. But certainty of absolutely safe anaesthesia has not yet been generally attained.

The great dexterity of surgeons of the pre-anaesthesia period is a matter of history. Spectators stood, watch in hand, timing the operator. The epoch of rapidity of operating was followed by a period when leisureliness was characteristic; it seemed to last up to within the last decade, when it has been succeeded by a return to manipulative rapidity. Several factors contribute to the change. Perhaps the most important is the recognition of the large part played by shock in operative work. Every unnecessary cut, every rough tear of tissues is an additional insult to the organism, and every misspent minute in the course of an operation means the absorption of a still greater quantity of a powerful drug and a bigger piling up of the burden the patient has to bear. Investigations into the true nature of shock and modes of preventing it, as well as inquiry into the action of anaesthetics, have undoubtedly resulted in a speeding-up of surgical operations. This speeding-up does not necessarily mean hurry; it means quickness of manipulation with gentleness in handling, cleanness of cut as opposed to rough tearing. In the discussion on the technique of wound treatment at the Annual Meeting of the British Medical Association in Birmingham the importance of dexterity was emphatically spoken to by two members, both claiming to belong to the older school. One reminded the Section of Surgery that Lawson Tait recommended a short course of training with every artificer in Birmingham as a proper preliminary to a surgical career. Life is too short and the medical curriculum too long for such a counsel of perfection; but at the same time it must be recognized that dexterity comes with practice.

THE LIBERAL PROFESSIONS.

Why have divinity, law, and physic been for so many centuries grouped together as "liberal" professions in contradistinction to other avocations? Doubtless, in the first place, because for admission to them it is necessary to have been initiated to some extent in the study of what are called the liberal arts; one cannot, as it were, become evolved into a clergyman, a lawyer, or a medical practitioner by the simple process of apprenticeship. But there is a further common stamp which marks off the professions from commercial pursuits of whatever kind; they are each bound by self-imposed laws, generally accepted, although they may be unwritten, by which their practice is regulated. This is what constitutes the bond of union, which Bishop Boyd Carpenter, at the annual meeting of the British Medical Benevolent Fund recently held at the Mansion House, called the freemasonry of the three great professions. They all place professional honour above the struggle

to acquire wealth, which is the aim of commerce, and they place on their members in their professional dealings restrictions which have no place in trade. The needs of mankind are considered fair subjects of exploitation by commerce; a "corner" in some commodity, even if it be a necessary of life, is considered a clever stroke of business. How different this from the attitude of Sir Thomas Browne, who was sympathetically referred to by Bishop Boyd Carpenter! His words have often been quoted but cannot be repeated too often: "I doe not secretly implore and wish for Plagues, rejoyce at Famines, revolve Ephemerides, and Almanacks, in expectation of malignant Aspects, fatall conjunctions and Eclipses: I rejoyce not at unwholsome Springs nor unseasonable Winters; my Prayer goes with the Husbandmans; I desire every thing in its proper season, that neither men nor the times bee out of temper. Let mee be sicke my selfe, if sometimes the malady of my patient be not a disease unto me, I desire rather to cure his infirmities than my owne necessities, where I do him no good me thinkes it is scarce honest gaine, though I confesse 'tis but the worthy salary of our well-intended endeavours: I am not onely ashamed, but heartily sorry, that besides death, there are diseases incurable, yet not for my own sake, or that they be beyond my art, but for the general cause & sake of humanity whose common cause I apprehend as mine own."

It is true Sir Thomas Browne introduces these noble words by saying: "I feele not in me those sordid and unchristian desires of my profession," but this remark must not be taken as of general application. Self-sacrificing philanthropy had not in his day become the badge of all our tribe, and perhaps it would be too much to say that all doctors, even at the present day, could honestly echo the words of the author of *Religio Medici*. But he expresses the general sentiment of the profession which is too generally regarded, as Bishop Boyd Carpenter well said, as the only profession in the world that is to be precluded from the right of a living wage. How often do coroners' juries, composed of tradesmen who would think any one demented that should ask them to give their wares to the needy for nothing, express a Pecksniffian indignation at the "inhumanity" of a doctor who has declined to give his laboriously acquired knowledge and his time to the first comer without any prospect of fee or reward, and with the memory of many cases in which he has been induced to do this without even earning the gratitude of the patient. How often is the censure thus lightly passed re-echoed in the press! How often, too, is the doctor's charity imposed upon by well-to-do persons! And how often is the doctor called upon to do work for nothing while the credit for his generosity goes to some Lady Bountiful, whose vicarious philanthropy is exercised at his expense!

In view of all this, it is surely passing strange that there should be persons who seem to think it a sacred duty to slander the profession and abuse or ridicule its work. Politicians, who should before everything else concern themselves with the safeguarding of public health and the promotion by this means of national efficiency, seldom show the slightest appreciation of the aims of medicine. Gladstone, whose interests ranged from Home Rule to the polity of the Hittites, could not be induced, even by the representations of his friend Sir Henry Acland, to consider hygiene as an object of legislation. Do we not see history repeating itself in an Act which is based on the assumption that the doctor will be eager to do the maximum of work for the minimum of pay? The politician thinks that he can safely leave the medical profession out of account because its voting power is negligible. In this he is perhaps wise in his generation, as experience shows that the professional instinct is so firmly rooted in the doctor's breast that he will bear whatever burden of work is laid upon him without looking for more than the scantiest wage. What other class of men is there of which it can be said that it is doing its utmost by laborious and often dangerous research to abolish and extirpate disease?—a consummation which, if ever reached, will carry with it the extinction of a profession which will have become superfluous.

Medicine is as yet far from being an exact science, and its professors have their share of the frailty which is a part of human nature. The same is true of the other liberal professions. Sir Thomas Browne puts it: "And to speak more generally, those three Noble professions which al civil Common wealths doe honour, are raised upon the fall of Adam, & are not any exempt from their infirmities; there are not onely diseases incurable in Physicke, but cases indissoluble in Lawes, Vices incorrigible in Divinity."

Even the proverbial differences of opinion among medical men are not peculiar to their profession. It was not of them, but of casuistical divines, that Pope was thinking when he wrote the famous line:

Who shall decide when Doctors disagree?

The innumerable sects into which Christianity is split and the controversies that make one ask *Tantaene animis coelestibus irae?* show that among divines there does not reign that harmony which, Lorenzo says, is in immortal souls. As for the lawyers, they live on discord. It has been said that the divine sees the best and the lawyer the worst of human nature, while the doctor sees it as it really is. There is a certain amount of truth in this, but it is not the whole truth. The doctor sees the patient when his judgement is disabled and his will weakened by disease; he often sees an amount of selfishness that is hidden from the eyes of his brethren of the sister professions, a vampire-like selfishness that sometimes sucks the life blood out of those around. On the other hand, he also sees examples of tenderness and love of which the world knows nothing. This is particularly the case among the poor, whose kindness to each other in suffering must have struck all who, like the doctor, see their lives at close quarters. The doctor therefore sees both the best and the worst of human nature; for this reason he is generally a man of larger outlook than the members of the other liberal professions—more tolerant than the divine, less suspicious than the lawyer. We think, too, that we may justly claim for him that he is more charitable than either. His work has taught him the great lesson that *tout comprendre c'est tout pardonner*. He does not throw stones at sinners; he tries to heal their bruises. The much decried medical student—not always, it must be owned, a bright exemplar of the graces or virtues of the Christian life—faces the risks of infectious disease without fear; people look to him for such conduct as matters of course, and comfort themselves for their own cowardice by hugging the belief that in some way his profession makes him invulnerable. He feeds starving women whom he has attended in their hour of travail, perhaps accompanying his ill-spared gifts with language more picturesque than elegant. He has no notion that he is doing anything uncommon, and would be the first to laugh at the idea. As the boy is so is the man, and the finest heroes are found in the medical profession. Their heroism is all the more genuine

since it is obscure and inglorious. It is a mystery of the human mind, therefore, that there should be people who lose no opportunity of abusing the medical profession. That particular members of it should be disliked is easily understood, but hatred of the profession is as incomprehensible as hatred of engineers or painters.

RELIGIOUS NEWSPAPERS AND ADVERTISING QUACKS.

We have on many occasions drawn attention to what must seem to medical men and thinking members of the public the strange phenomenon that many religious newspapers and periodicals habitually publish, sometimes in the form of reading matter, advertisements of the most noxious quacks. It is therefore with great pleasure that we are enabled to quote the following spirited protest from the April issue of the parish magazine of Holy Trinity, Darwen, of which the Rev. Louis Savatard is the vicar: "If those wretched advertisements, emanating from various impostors who profess to heal all sorts of sicknesses, diseases, and infirmities beyond the power of our most eminent physicians and surgeons, continue to appear in certain religious newspapers after this notice in our obscure magazine, we shall proceed to invoke the aid of certain high authorities among both our own people and Nonconformists, in order to remedy the really serious evil. Hundreds (probably thousands) of the readers of these religious weeklies must be defrauded of no little money, while many of them doubtless receive more or less injury at the hands of these sham 'specialists.' We do not, of course, refer to the ever-increasing number of remedies 'to be had of all chemists and patent medicine vendors,' which may be no more harmful than they are efficacious. But what we strongly protest against is that papers chiefly devoted to the religious and moral welfare of their readers, should display, in large print and picture (or hide away in a corner), alluring advertisements of dishonest quacks. And their glaring advertisements appear side by side with and over and under articles, sermons, and other reports dealing with the solemn and deeply spiritual truths of our holy religion. Generally these base adventurers refer the reader to some private address of a bogus doctor, or to a bogus institute of medicine, chemistry, or such like place, while a more modest, but not less fraudulent advertiser charitably poses as a 'lady' or 'gentleman,' who has so benefited from a certain valuable remedy that she, or he, is prompted for the good of others to advertise the cure in many papers, year after year, and to correspond with thousands of applicants, utterly regardless of trouble and expense, and to forward the remedy free. None of the more respectable London and provincial secular papers nor the better class of religious papers will admit these vultures into their columns, and they certainly ought not to be aided in their nefarious trade by any papers whose one great aim is the spiritual and religious welfare of the whole community."

BLOOD-LETTING.

The days are long past since "they cupped, they bled, they purged, in short they cured him," yet in the lifetime of men now living Sir Thomas Watson wrote: "I cannot entertain a doubt that the withdrawal of a certain quantity of blood is in almost every case essential to the permanent control of common acute inflammation attended with pyrexia." Dr. de Havilland Hall quotes Watson's words in an article on Blood-letting in the last volume of the *Westminster Hospital Reports*. He shows how abstraction of blood has come to be more freely practised of late years. When a student at St. Bartholomew's Hospital he never heard of a patient being bled. In 1892, when Dr. Hall requested a surgeon attached to a great medical school to bleed a patient, the surgeon declared that it was the first time he had been called upon to perform phlebotomy. He goes on, however, to say that when he joined the staff of the Westminster Hospital in 1875 he found that the beneficial effect of judicious blood-letting was fully recognized and practised, and he tells us that he spoke, a year later, at a medical society, about the benefit to be derived from venesection to the amount of 4 to 6 oz. in cases in which the right side of the heart was engorged. Sir William Allchin was always an advocate of this method of treatment. Leeching also has gone out of favour; in 1837 over 96,000 leeches were used in a twelvemonth at St. Bartholomew's Hospital, and it must be remembered, Dr. Hall points out, that venesection was also extensively practised at that date, and that the services of a professional cupper were often requested. During the last three years the average number of leeches employed at the same hospital was under 650. The average at the Westminster Hospital during the past ten years was under 300. Dr. Hall notes the difficulty of performing venesection in very fat subjects, though in our grandfathers' time the transfixing of the skin and the vein with one stroke of the lancet was, owing to constant practice, carried out with great success and exceedingly little ill-effect. Latter-day phlebotomists seem to be almost as bold as their predecessors. Sir William Broadbent drew 30 oz. on one occasion. The patient was a plethoric man, aged 42, suffering from violent convulsions; he was in good health a year afterwards. Dr. Lucas Benham records a case of haemorrhage into the pons, where 48 oz. of blood were abstracted and recovery followed. Watson, in the good old times, saw a vein kept open until 72 oz. had issued from it, and the patient got perfectly well. Dr. de Havilland Hall is greatly in favour of phlebotomy or leeching in most forms of apoplexy, but, if the seizure be due to embolism or thrombosis, the recuperative power of the patient will not be increased by the loss of blood, and by lowering tension venesection may promote clotting and further increase the area of damaged brain substance. Dr. Hall gives some advice, not by any means superfluous, about leeches and leeching. In recommending their application in a test tube he reminds the reader that the thinner end of the leech is its head. Unfamiliarity with the annelid may, we believe, lead to mistakes about its end as well as about its use. In conclusion, Dr. de Havilland Hall advocates blood letting either by leech or lancet in cases of an apoplectic nature, especially when associated with coma and cyanosis, of high tension and granular kidney in connexion with arterior-sclerosis, of convulsions in the status epilepticus, of uraemia, of sunstroke with asphyxia, of polycythaemia, of pain associated with aneurysm, and in dilatation of the right ventricle from any cause. In pneumonia blood letting is advisable for relief of pain and dilatation of the right ventricle, and it is also to be recommended in haemoptysis with dilatation of that chamber of the heart.

COLOUR PHOTOGRAPHY BY PRISMATIC DISPERSION.

However excellent the results of colour photography by the autochrome and other screen-plate processes may be, some people who look at theory rather than at practice have always been found to contend that these are not really methods of colour photography at all, since the colour is superadded by an artificial colour-screen. This objection does not hold good in the case of what is known as the micro-spectra method of colour photography by prismatic dispersion, which, of all the methods in the field, is possibly the most perfect theoretically. Unfortunately, the practical difficulties are enormous, but at a crowded meeting of the Royal Photographic Society on March 26th, the brothers Julius and Ernest Rheinberg showed how they had surmounted them by the construction of a special camera, and gave a successful

demonstration of results. No artificial colouring of any kind is introduced in this method. An ordinary black and white negative is taken, an ordinary black and white positive is made from it, and by a purely optical arrangement the picture is seen in its natural colours. The essential thing in the process is a surface composed of hundreds of complete but very narrow spectra, lying next to one another in a regular repeating series. So closely packed are these spectra that at the distance of normal vision the eye fails to distinguish them, and sees the surface as white. This surface is produced by allowing white light to fall upon a line-screen or Max Levy grating, and forming an image of this screen by means of a lens having a prism just in front of it. Each clear interspace between the opaque lines of the line-screen is thus spread out into a complete spectrum. Such a surface can be made to appear in any desired hues if it is viewed through a mask which blocks out or weakens colours not wanted while allowing other colours to pass through in their correct intensity. In the Rheinberg system the positive or lantern-slide serves as the mask for this purpose. The photograph is taken by projecting the image of an object on to the line-screen with an ordinary objective lens, and the line-screen with the coincident images is then focussed on to a panchromatic plate by a second lens having the analysing prism in front of it, the exposure being only about half a minute in summer sunlight. The resulting negative will have been darkened completely where it has been acted upon by any colour in its full intensity, and darkened partially where the incident colour is weakened. A positive will show the reverse effect of transparency, and when this positive is placed in the position previously occupied by the negative the contiguous spectra will be seen through it, and the picture will appear in its proper colours. It can be viewed in the camera by the individual, or projected on a screen before the audience. On the occasion alluded to a large number of results were shown on an aluminium-powder screen, and the colours appeared to be faithful, while the sheen of textiles and metallic surfaces was remarkably well rendered.

THE "INDEX CATALOGUE."

THE appearance of the annual volume of the *Index Catalogue*[1] is always an event of importance in the world of medical bibliography. Since the Surgeon-General's Library at Washington now contains over 176,000 bound volumes and more than 315,000 pamphlets, it follows that its *Catalogue* is rapidly approaching the degree of completeness when it will be possible to call it a compendium of the whole of medical literature. It cannot, indeed, be long before it will be the ambition of every bibliophile to possess a book or an edition of a book which is not to be found in the Washington Library. In the meantime, and for all practical purposes, one may feel pretty sure that the works bearing upon any subject in medicine which are named in the first and second series of the *Index Catalogue* make a complete list; if any one, even the most exacting of reference hunters, has exhausted the pages of this work, he need look no further save in more recent literature. What an amazing catalogue of medical writings it is! This is the second volume of the second series which has been given to the letter S, and part of a third volume will be required to complete it. Yet these volumes contain mainly the additions which have been made to the Library during the past twenty years, for the thirteenth volume of the first series (which corresponds roughly in its rubrics with this sixteenth of the second series) was published in 1892. Here we have 882 pages of double columns of small print, giving simply the titles of the various books, pamphlets, and journal-articles dealing with the medical subjects embraced alphabetically between the words Skinko and Stysanus, and, in order of time, between the years 1892 and 1912. The modern Dominie Sampson may well clasp his hands and ejaculate "Prodigious!" as he looks not at the books and essays, but simply at their titles in these well-packed pages. But the reader may all this time be wondering what *skinko* and *stysanus*, the first and last words in this volume, stand for. Under *skinko* the *Catalogue* refers us to the list of works on *Plague*, and we gather that it must be the name of a place; there is a *Shinko* (sic) named there in an article by Dr. Okata in a Japanese journal; perhaps that is it. *Stysanus* is also somewhat mysterious, but from the context we may hazard the guess that it is the name of a potato parasite. Turning now to the main list of articles in the volume we are at once arrested by the extraordinary number of pages devoted to *Stomach*, under such rubrics as Stomach, Acids of, Atony of, Bacteriology of, Cancer of, Contents of, Crises of, Dilatation of, Diseases of, Surgery of, Transillumination of, etc. In all there are 190 pages of double colums, each containing the names of some thirty articles or books, given to this one department of medicine. Now, the corresponding rubrics in the first series of the *Index* had only 78 pages given to them, so that we must admit that much more is being done for diseases of the stomach these past twenty years, or at least we may say that much more is being written about them. To take some of the other leading rubrics, we find *Small-pox* with thirty-seven pages, *Societies* with thirty-six, *Spine* with sixty-six, *Spinal Cord* with fifty-six, and *Statistics* with forty-eight pages. Then, under author-titles, we find that twenty-five columns are needed to record the contributions to medical literature in these twenty years made by members of the great *Smith* family! But most interesting of all are the rubrics which appear in this volume and which had no place in the corresponding one of the first series. There is *Sleeping Sickness*, for instance, which has no separate place in the first series of volumes, and now has more than nine columns of references, under such subheadings as Causes and pathology, Diagnosis and semeiology, Experimental, Prevention and treatment, Transmission of; the little *Glossina palpalis* has truly made a name for itself in these years. Then, again, there is *Skotography*, offspring of the *x* rays, and *Stasis, Venous*, for which we are indebted to Bier. *Stegomyia calopus*, as the vector of yellow fever, makes his bow for the first time in this volume; and *Sterilization* (sexual, for sociological reasons), *Stirpiculture*, and *Stockbreeding* all appear to remind us of the eugenic movement and its relation to social hygiene. Many new drugs (*somatose, somniform, sozoiodol, spirosal, stovaine*, etc.) have rubrics to themselves, and when the third series of the *Index* is reached there will doubtless be many more whose names are now in the womb of the future, but whose chemical constituents await the hand of the pharmacologist to fashion them into health-giving combinations. Then, again, there are *Spirillosis, Spirochaeta (pallida, duttoni, obermeieri)*, and *Spirochaetosis* to remind us of notable discoveries in the causation of disease. Somewhat surprising rubrics are found in *Snoring, prevention of*, under which we find an antisnoring device registered; in *Sooterkin*, mysterious word; in *Stage-fright*, with its unkind cross-reference, "See also Neuroses"; and in *Straw-itch*, "a disease new to American physicians." Several papers are registered under the heading "*Strikes*," although we may not at present need to be reminded of the effect of such things on the public health of a country. Finally, here is a rubric which may give us pause: Under *Style* there appear only two contributions to this important matter of exact and elegant composition; one, from America, says, "Do not let your Latin spoil your English"; while the other is an editorial on style in medical writings which appeared (the editorial blush confesses it) in our own pages in 1905. Is it really true that these two

[1] *Index Catalogue of the Library of the Surgeon-General's Office, United States Army.* Second Series. Vol. XVI, Skinko-Stysanus. Washington. 1911

contributions are all that have been given to guide the young medical author in this high business of writing well in these twenty years?

HEALTH IN WEST AFRICA.

A RETURN relating to the health last year of non-native officials serving in the West African colonies and protectorates has been laid on the table of the House of Commons this week. It is issued by the Colonial Office, and owes its existence, no doubt, to the establishment of the West African Advisory Committee. Though brief, it is an interesting document, and one from which very satisfactory conclusions may be drawn. The information supplied includes the number of white officials in each of the five colonies and protectorates, their age distribution at the central age periods from 25 to 50, the mortality and invalidity rates at the same periods, and the average length of service at the date of death, invaliding, or retirement on pension. The total number of non-native officials at the beginning of 1911 was 2,214, the greater proportion belonging to the two age groups whose central years are 30 and 35; the number who died or were invalided were 32 and 58 respectively. These figures correspond to a death-rate of 14.4 per 1,000 and an invaliding rate of 26.1 per 1,000, but as the average number of the officials in question employed during the year was considerably over 2,214, the rates in question if precisely ascertainable would be correspondingly lower. Though these figures are by no means high in themselves the satisfactory progress they indicate is made more apparent by comparing them with the figures of an earlier date. This task is facilitated by two graphs and a table, which show that in 1904 the mortality-rate was as high as 63, and, with the exception of one year, has been steadily falling ever since. Even since the year 1910 it has fallen nearly 7 per cent., despite the fact that during that year there was a serious outbreak of yellow fever in the Gold Coast and Gambia, which led to the death of four non-native officials and thirteen non-native unofficial persons. In addition a certain proportion of the deaths in 1911 were, as in previous years, due to causes other than disease. It might be supposed that the lowering of the death-rate was due to greater promptitude in invaliding; but the figures supplied show that the invaliding rate also has dropped. Moreover, while in 1904 the average length of service at the date of invaliding was only two years, it was three years and four months in 1911. The return, therefore, fully confirms a belief which, gradually growing for a considerable number of years, has several times found expression in these columns—namely, that the time is past when the West Coast of Africa deserved its title of the "white man's grave." Several factors have, no doubt, contributed to bring about this desirable change, chief among them being the greater activity and greater success of officials of the West African Medical Staff in inculcating desirable habits among white residents, and in turning to full advantage recently acquired knowledge of tropical diseases. Further factors have been the encouragement that medical officers have received of late from the Colonial Office and the establishment by it of a Sanitary Department in the West African Medical Staff, and of an advisory body at home. On the subject of the general effect of residence in West Africa it should be noted that the term "invaliding" used in the report does not always imply permanent invaliding; officials invalided from the service are not infrequently found fit for reappointment after residence of a year or so in Great Britain, and those placed upon pension at the end of seven or a greater number of years generally enjoy their pension for many years. In one or two instances the period of pensioned life has been as many as forty years. The interest of a future report would be increased by supplying material for comparing the death-rates in West Africa with those of men in this country at the corresponding ages. Similarly a table might be supplied showing the average length of service of officials who so far have been neither pensioned, nor left the service on the termination of their engagement, nor through death.

TREATMENT OF LEPROSY.

A REPORT[1] from British Guiana, recently laid on the table of the House of Commons, brings up to date the record of the investigation of the value of nastin and benzoyl chloride which has been in progress at the Mahaica Leper Asylum in the colony in question for the past three years.[2] The conclusions reached are not favourable to nastin, and only recommend benzoyl chloride as a palliative remedy. The investigator, Dr. E. P. Minett, Assistant Government Bacteriologist, concludes his report, which is remarkably succinct and yet adequately detailed, by indicating that so-called destruction of bacilli takes place in patients who are under treatment either by nastin or benzoyl, but does not appear to be hastened or otherwise influenced by either of them; it is a natural process which seems to accompany almost all cases of leprosy, and its activity varies both from time to time and also in different situations in the same patient. Cases of anaesthetic leprosy run a definite course, after which the disease seems to die out of itself, infectivity ceasing and cutaneous sensibility slowly returning. But these recoveries take place without any treatment whatever, and their rapidity is not apparently influenced either by nastin or benzoyl. Nodular cases do not tend to improve naturally, except in very rare instances, but the condition of these likewise is not affected appreciably by the drugs in question. On the other hand, benzoyl chloride is distinctly useful as a nasal spray or as a paint for ulcerating surfaces, since it quickly frees the discharges from bacilli; its regular use for this purpose is strongly recommended. Dr. Minett's conclusions are confirmatory of those previously reached by Dr. Wise at the same asylum, and both of them, it is to be noted, took the precaution of controlling their observations by corresponding observation of the progress of the disease in untreated cases of the same kind. In many instances such treatment and observation was maintained for as long as two years.

OPHTHALMOLOGY AT OXFORD.

THE ninth annual post-graduate course is announced for the last fortnight in June, consisting as usual of a course of systematic lectures and clinical demonstration of a large number of cases illustrating the various conditions described in the textbooks, together with refraction work. The course of instruction for the diploma in ophthalmology is given during the summer term beginning on May 1st. It includes instruction in physiological optics under Professor Gotch in the Department of Physiology and in the anatomy of the eye and orbit in the Department of Anatomy by Professor Arthur Thomson. In the Department of Ophthalmology there will be given instruction in ocular pathology and a course of applied bacteriology. Systematic and clinical lectures will be given daily, and practical work in the methods of examination and treatment of the eye will be required, in order to qualify for the certificate of satisfactory attendance. The university examination for the diploma takes place in the third week in July. Any further information can be obtained from Mr. R. W. Doyne, Reader in Ophthalmology in the University of Oxford. The Oxford Ophthalmological Congress will meet on Wednesday, July 17th. Rooms can be provided in Keble College for any who wish to take part.

[1] *Further Report on the Nastin and Benzoyl Chloride Treatment for Leprosy.* By Dr. E. P. Minett, Assistant Government Bacteriologist, British Guiana. London: Eyre and Spottiswoode (Cd. 6023, price 1½d.; in continuation of Cd. 5583).

[2] BRITISH MEDICAL JOURNAL, March 16th, pp. 629, 643.

THE FEAR OF PREMATURE BURIAL.

It is a fact that the fear of premature burial, small though the grounds for it may be, casts a shadow over the lives of not a few people of a morbid turn of mind. It is unfortunately true that in the present lax state of the law as to death certification the idea cannot be dismissed as altogether outside the sphere of possibility, but it can be said with confidence that it is a most unlikely contingency, and it is still more unlikely that if the accident did happen the victim would ever suffer any of the horrors depicted by the eerie fancy of Edgar Allen Poe. He would pass from trance into death without awakening into conscious life. For persons haunted by the fear of being buried alive cremation presents the undoubted advantage of being an effectual preventive of such an occurrence. The certificates required are so stringent as practically to exclude the possibility of a living body being disposed of as if it were dead. Or the precaution taken, among others, by Miss Frances Power Cobbe and Edmund Yates, of getting a doctor to "mak siccar" before the body is laid in the grave, may be adopted. Even this, however, seems to certain timorous minds to be not wholly free from difficulties. A lady named Mrs. Harris, who died on February 7th, is reported (in the *Times* of March 25th) to have made the following statement in her will: "I most sincerely desire that there shall be no possibility of my being buried alive or put under ground alive or in a trance, and that there shall be the most undoubted proof of death by one or more fully qualified medical men after personally seeing my body. I have none at present in whom I have sufficient confidence to name, so must leave to my executors to choose those who are perfectly capable of judging that decomposition has already set in before being fastened down and buried." There are many who distrust the power of the doctor to cure, though they are loud in declaring their perfect belief in his power of killing. But this poor lady seems to have carried want of confidence in the profession to a limit which Petrarch, Montaigne, Molière, and Mr. Bernard Shaw rolled into one have not reached, as she says she knew no one who could be trusted to say that her dead body had begun to decompose. It is to be hoped that her executors succeeded in finding some supreme scientific authority capable of solving that difficult problem.

THE LONDON SCHOOL OF TROPICAL MEDICINE.

The first number of the *Journal of the London School of Tropical Medicine*, which appeared in December, 1911, and the second number, which has recently been issued, contain some very interesting papers. The school proposes to bring out three numbers of the *Journal* yearly—that is, one number per session—the date of publication being about the middle of the term. Sir Patrick Manson is the Editor-in-Chief, Dr. Daniels the General Editor, and there are sectional editors for the different special departments existing at the school—namely, Dr. Leiper for helminthology, Dr. Wenyon for protozoology, Colonel Alcock for entomology, and so on. The scheme of the *Journal* is a very good one. A summary of recent literature is given in each section, in addition to original communications and other matter of interest. The matter published is all to be written by the staff and past members of the school, and this will not only make the *Journal* a real journal of the school, but encourages old students to contribute matter of interest. Though limited in this way, the *Journal* will also become a very important disseminator of information as to tropical medicine and tropical research generally, for much valuable and important work is now being accomplished at the school. The inclusion of abstracts of important papers will also keep any subscriber up to date in all the branches of tropical medicine. The new number contains papers on recent advances in knowledge of leishmaniasis, on helminthology, on antityphoid vaccination, on amoebic dysentery, on verruga peruana, and on ipecacuanha in the treatment of amoebiasis. It will be seen that a wide area is covered, and an immediate success may confidently be predicted for this the newest of journals dealing with the important subject of tropical medicine.

THE PREVENTION OF BLINDNESS IN EGYPT.

An interesting article appeared in the *Ophthalmoscope* in December, 1911, on the best means to adopt to avoid the spread of the forms of ophthalmia which may lead to blindness. This communication was read at the Fourth International Congress for the Amelioration of the Lot of the Blind in Cairo, and was written by Mr. A. F. MacCallan, F.R.C.S., the Chief Inspector of Ophthalmic Hospitals belonging to the Public Health Department at Cairo. The work with which Mr. MacCallan has now for so long been connected in Egypt makes his opinion on such a subject of great value. The chief causes of blindness in Egypt are acute ophthalmias, trachoma, and glaucoma. Glaucoma accounted for 21 per cent. of the cases of blindness seen among 91,917 patients examined during the four years 1907–10; that is, 1.4 per cent. of all the patients who presented themselves for treatment at the hospital were blind in both eyes from glaucoma. Chronic glaucoma is probably more common in Egypt than in any other country in the world. Out of 132,000 patients examined during the last five years 4.2 per cent. were found to be blind in both eyes and 6.4 blind in one eye from all causes. As regards trachoma, it is impossible in a country like Egypt to isolate the cases, for almost the entire population has the disease, and it is very difficult to keep unaffected people away from those who are contagious. Any acute ophthalmia will greatly aid the spread of trachoma, which is almost invariably due to direct infection from the finger or towel. Flies probably have little to do with its spread. Dust containing infective material is a very fruitful source of infection, especially among the lower classes, who all herd together, and very frequently with their animals. All the schools are insanitary and crowded, but the Ministry of Education cannot pull all the buildings down and build others with more space. So great is the prevalence of these diseases that there are at the present time in Egypt more than 39,000 blind children of about school age. It is hoped that within about ten years there will be twelve permanent and two travelling hospitals in the fourteen provinces of Egypt. This, however, is very insufficient, for in each province there are six *merkazes* or police districts, each with an average population of 120,000. Even with a travelling hospital in each *merkaz* it is calculated that twenty years would elapse before all the patients could be seen. Great things may be done by educating the people and by preventive measures, even more than by treating those already blind, and the Ministry of Education has been considering for some time past the possibility of providing in the chief towns an institution for teaching the blind. The amount of blindness in Egypt is simply appalling, and requires for its relief the expenditure of a great deal of money and much skill and thought by those who are able to devote time and study to the elucidation of the problems. Mr. MacCallan never tires of giving us details of the excellent work done by the ophthalmic hospitals in Egypt, of which he has been the chief surgeon and technical adviser ever since he has been in the country. The work he has done there has been colossal, while the Government and private individuals are doing all that is possible to ameliorate the state of suffering which is caused by these acute infective diseases, all of which might be prevented if suitable means could be adopted.

THE STUDY OF PSYCHIATRY.

The Council of the Royal Society of Medicine having decided that it is advisable to form a Section of

Psychiatry, a meeting of Fellows and others interested in the subject was held at the temporary premises of the society, 15, Cavendish Square, W., on March 27th. The President of the society, Sir Henry Morris, Bart., was in the chair, and a resolution was unanimously adopted welcoming the resolution of the Council and expressing the desire at once to take the necessary preliminary steps for the establishment of this section. For the furtherance of this project a subcommittee of Fellows was formed, consisting of Sir George H. Savage, Dr. F. W. Mott, and Dr. R. Percy Smith, with Dr. R. H. Cole as honorary secretary, to arrange preliminaries and to convene a meeting early in June to elect the officers and council of the section.

VISUAL MALINGERING.

THE study of malingering in its many forms has become essential to every medical man who has anything to do with the examination of workmen who claim compensation. Dr. H. V. Würdemann,[1] in an interesting paper on malingering with reference to the eye, states that accidental injuries are imitated by the patient inserting irritating substances, or by actually wounding his eye, and that the production of conjunctivitis in this way is common. Among the many substances used are sand, tobacco juice and ashes, caustic solution, acids, alcohol, and wine. The lesions are generally confined to the lower lid, whereas a real foreign body is more frequently found under the upper lid. It is typical of such cases that they appear before the examiner with the eye already bandaged. The cornea may be cut or scratched by broken glass, by a knife, or a needle, and the latter instrument has been employed to pierce the eye and produce a traumatic cataract. More commonly anomalies of function, and especially blindness, may be simulated. This is usually alleged in one eye, or if both are implicated, only diminution of acuity is complained of. The unilateral cases are easily detected by a surgeon with the necessary tact and knowledge. The best method is to examine the eye with the ophthalmoscope, and to pretend to agree with the candidate that it is a bad eye. Then say, "Now let us examine the good eye," and then slip a + 10 lens in front of it, or adopt other well-known methods, using prisms or coloured letters and glasses. Intentional self-inflicted damage under circumstances simulating accident are not unknown. Cases in which there has been a real accident, and the patient pretends that the loss of sight is greater than it really is, are much more difficult to unmask, and demand careful and frequent examination. The sight must be tested with different sized types at different distances, and the fields must be taken at various distances. In many cases of accident, bad sight which existed before the accident is alleged to be the result of the accident. Hence it should be an invariable rule always to test the acuity of both eyes as soon as the patient is seen.

FROM TRIPLETS TO SEPTUPLETS.

TRIPLETS are not of extreme rarity, but when we seek for information about quadruplets in medical literature we find much record unworthy of belief, yet quintuplets are known to exist on the evidence of a few obstetricians of the present day, who can verify their statements by museum preparations, and the photogravure. Professor Nijhoff of Groningen has supplied British literature with evidence of the latter kind.[2] Ahlfeld,[3] who last year reviewed the published reports of multiple twins in phenomenal numbers, could find no authentic case of septuplets. Putting aside legends which developed in past ages amongst credulous folk, Ahlfeld suspects deceit in later days, other mothers' infants being possibly borrowed and exhibited at fairs with twins or triplets. More often products of conception other than fetuses have been counted as such by midwives. Still, Ahlfeld accepts as genuine one solitary case of sextuplets—namely, that reported by Nassalli. Nijhoff has published a collection of 29 cases of quintuplets recorded from 1694 to 1900, but the earlier cases can hardly be admitted as genuine, although one, where quintuplets were born at Scheveningen in 1719, appears fairly credible. Ahlfeld's evidence as to viability seems to show that we must draw the line at quadruplets, though one individual quintuplet, it appears, managed to survive its birth for fifty days. All the remaining multiple twins were stillborn or lived for a very short time. Ahlfeld accepts the authenticity of one history of quadruplets all living when they were last under observation at the age of 11. We commented on the fate of triplets over six years ago in discussing Dr. Kaiser's full report of four batches of triplets born to one couple. All were too weak to take the breast, yet all were reared; two daughters out of the same set were married in 1905. Invidious things have been said about twins, much more familiar to men of all ages. We know that they very often live to maturity, but Kaiser declared that he knew of no famous man who had a twin brother. Compilers of biographical dictionaries may perhaps let us know if Kaiser was correct. Castor and Pollux still star it in the heavens, but the great twin brethren, being immortals, do not count.

[1] *Ophthalmology*, April, 1911.
[2] Case of Quintuplets, *Journ. of Obst. and Gyn. of the Brit. Emp.*, vol. vi (1904), p. 32.
[3] *Allgem. deutsche Hebammenzeitung*, No. 24, 1911.

WE regret to have to record the death of Dr. Angus Fraser, Consulting Physician to the Aberdeen Royal Infirmary.

A COMPETITIVE examination for not less than twenty commissions in the Royal Army Medical Corps will be held on July 24th next and following days. Further particulars will be found in our advertising columns.

AMONG the new members elected to the Italian Senate are Professor Pietro Albertoni and Dr. Felice Santini. Professor Albertoni, who is 62 years of age, has for many years occupied the chair of physiology in the University of Bologna. He fought under Garibaldi, and has sat as a Radical in the Chamber of Deputies. Dr. Santini is 61, and served for many years in the Italian navy. He is the author of an account of a voyage round the world. He has long been a member of the Chamber of Deputies.

SIR DAVID GILL, K.C.B., F.R.S., has succeeded Lord Cromer as President of the Research Defence Society, and Lord Cromer, the Right Hon. A. J. Balfour, Sir Edward Elgar, O.M., Mr. Rudyard Kipling, and Lord Rayleigh, O.M., have consented to be Vice-Presidents of the Society. Sir David Gill, who is 69 years of age, was His Majesty's Astronomer at the Cape of Good Hope from 1879 to 1907, and was President of the British Association in 1907-8. He is a Knight of the Prussian Ordre pour le Mérite, a Corresponding Member of the French Institute, and a member of most of the leading scientific societies in Europe and America.

ACCORDING to the *Pharmaceutical Journal and Pharmacist* of March 30th, a bill to regulate the sale of drugs in Nyasaland is under consideration. It provides that no person shall sell any poisons or drugs without being duly licensed, and that no licence shall be granted except to Europeans. Certain articles are also scheduled which may not be sold except on the written authority of a medical practitioner or other authorized person. These articles include cannabis indica, chloral hydrate, cocaine, morphine, and opium. The sale of the drugs and poisons specified in the several schedules to the bill to Asiatics and natives is prohibited, except when absolutely necessary for medicinal purposes by direction of a registered medical practitioner. It is proposed to repeal the "Poison and Opium Regulations, 1901."

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

National Insurance Act.

Trade Union Sick Benefits.

MR. WORTHINGTON-EVANS asked the Secretary to the Treasury whether an insured person who chose the Amalgamated Society of Carpenters and Joiners as his approved society, and made voluntary contributions to it for increased sick benefit in addition to that payable under the National Insurance Act would be able to recover such increased sick benefit if the trade union refused, whether rightly or wrongly, to pay such benefit to him.

Mr. Masterman said the fact that a trade union became an approved society under the Act would not affect the rights or disabilities of the union or its members in respect of operations outside the Act, and any insured person who chose his trade union as his approved society, and made voluntary contributions to it for sick benefit beyond the contributions and benefits within the Act, would be subject, in respect of those benefits, to the same general law relating to trade unions as controlled their responsibilities in their present sickness benefits.

Preserved Cream Regulations.—In reply to many questions on this subject, Mr. Burns said last week that as a result of numerous investigations which had been made by medical inspectors of the Foods Department of the Local Government Board, and by others, he was satisfied that, in the interests of public health, regulations were required in regard to the sale of cream containing preservatives. He had accordingly had regulations prepared, and public notice had been given of them. He was anxious that any regulations which were made should interfere with legitimate trading as little as possible, and any representations which were submitted in regard to the proposals which were contained in the draft would be fully considered. The statutory period under the Rules Publication Act, 1893, for the making of objections would expire at the end of this month, but this would not, of course, preclude his taking into consideration communications subsequently received. As the draft now stood, no part of the Order would come into operation until June 1st next, and certain provisions not until January 1st next. If the trade considered other dates should be chosen, he should, of course, take account of any facts which they might submit in support of a suggestion to alter the dates. The points of detail raised in the question had, he thought, all been brought forward in official representations that had reached the department, and would be carefully considered. Questioned as to the use of the word "boricised" in the regulations, Mr. Burns said as between "boricised" and "aseptic," he did not think there was much to choose. The latter word was rather suggestive of a bandage or an accident hospital. It was true that boric acid and many other preservatives, when disproportionately used, were dangerous to health, and it was to prevent that that these draft orders had been prepared for the consideration of those interested. It was the temporary object of the Local Government Board to diminish the use of preservatives to the very lowest minimum. He hoped it would be possible some day to get rid of them altogether. Asked as to the date for the regulations to come into force, he said he did not think that on the point of notice any complaint could be made. Everybody concerned had had forty days' notice. As to June 1st for the first introduction of the orders, he had already said that he was prepared to consider the question whether a later date should be substituted for June, and whether a later date still should be substituted for January. On the whole, the trade had been treated reasonably well, particularly when it was borne in mind that it was at the instigation of the honest producers of pure cream that action like this had been undertaken.

Flour (Adulteration).—Sir J. Lonsdale asked the President of the Local Government Board whether having regard to the fact that it had been established by departmental investigation that the adulteration of flour by the addition of various deleterious substances was largely practised by millers, and the matter had been under his consideration for more than a year, he would now state when he expected to be in a position to announce the steps to be taken to put a stop to this practice in the public interests. Mr. Burns said he had received a number of deputations on this subject since the reports were issued from the Foods Department last year, and the matter had been carefully considered by his expert advisers from all points of view. As a result he had come to the conclusion that, in some respects, the matter could be adequately dealt with by the ordinary law against adulteration. He was, however, still considering whether it might not be possible to deal with some of the practices referred to by regulations under the Public Health (Regulations as to Food) Act, 1907.

Small-pox.—Mr. Albert Smith asked whether the President of the Local Government Board was aware of an outbreak of small-pox amongst gipsies at Sutton, Hereford, last January; whether the house-surgeon at the Herefordshire General Hospital detected the disease on one of the gipsies, named Job Smith, who was attending the institution as an out-patient, and allowed the man to go back to where he resided; and whether he would draw the attention of medical men to the danger of allowing small-pox patients to be at large. Mr. Burns said that two cases of small-pox among tent-dwellers at Sutton, near Hereford, had been reported to the Local Government Board. The first was the case of a man who attended the hospital for a gunshot wound. The house-surgeon detected a rash which he thought might be small-pox. He telephoned to the medical officer of health, who on the same day discovered the man at Shelwick, near Hereford. At first the medical officer was not satisfied that the case was one of small-pox, but on the second day the case was definitely diagnosed, and was removed to the Isolation Hospital of the Hereford Rural District Council. He thought medical men were sufficiently well aware of the danger referred to, and he did not think it necessary to issue any general notice on the subject.

Vaccination.—Mr. Bentham asked whether the vaccination officer of the Croydon Union, upon receiving certificates of conscientious objection signed by the mothers of children, had kept such certificates until after the children attained the age of 4 months, and seeing that it was his duty to refuse all invalid certificates, what steps would be taken. Mr. Burns replied that he had received two complaints in 1908 that one of the vaccination officers in the Croydon Union had not returned defective declarations until after the child to which they referred was 4 months old. He corresponded with the vaccination officer at the time, and had had no complaints since, but he was again drawing his attention to the matter.

Indian Government Sanitary Commissioner.—Mr. Hodge asked whether there was any intention to appoint a separate Sanitary Commissioner to the Government of India, or whether it was intended to continue the temporary arrangement whereby the Director-General of the Medical Service was at present doing the work in addition to his own. Mr. Montagu said that the answer to the first question was in the affirmative. Certain questions regarding the functions and position of the Sanitary Commissioner were under consideration. As soon as they were decided the appointment would be made.

Hypnotism by Unqualified Persons.—Mr. Gibbs asked the Secretary of State for the Home Department whether he would consider the desirability of introducing a bill at an early date prohibiting the exercise of hypnotism on patients for fee or reward by any persons, whether they be Christian Scientists or those who style themselves healers or practitioners, unless they be duly registered and qualified medical practitioners. The Home Secretary replied that he did not at present see his way to introduce legislation dealing with this matter.

Sydney.

[FROM OUR SPECIAL CORRESPONDENT.]

BUILDING REGULATIONS.

A COMMITTEE was recently appointed by the Local Government Association to consider the imperfections of the existing law with regard to buildings and to make suggestions for their betterment. The committee has been at work for the last six months, and its report has been submitted to the councils of the State for their approval. If the ordinance is carried into effect by new legislation, then in future the houses erected in this State should be satisfactory from every point of view. Under this ordinance no habitable room can be erected which does not provide at least 100 sq. ft. of floor space and a height of 10 feet. The necessity for ventilation has been carefully considered, and every room must have one window at least opening on the external air. The size of the window must be not less than one-tenth of the floor area and must open top and bottom. Damp walls are to be provided against by a damp course not only near the ground, but also above the roof in chimneys and parapet walls. Stability of external walls is provided for by making the thickness depend on the height, and no building can be erected with an external wall less than 9 in. thick. Some special clauses in this ordinance provide for the removal of household waste waters and drainage.

The chairman of the committee pointed out that its discussions had shown the necessity for extended powers; it therefore remained for the committee to state what further steps should be taken to bring about those amendments of the Act which their discussion had shown to be necessary. The outline of a new bill to be introduced into the next session of Parliament had been submitted to the committee; it contained no provisions for giving councils greater powers over buildings. The committee agreed to the chairman's recommendation, and it was decided to ask the Minister to amend the bill so as to include the following:

1. Power to fix the position of dwellings on allotments.
2. To give councils power to keep a medical history of dwellings.
3. To classify building zones and amusement areas.
4. To define more explicitly the power of councils over buildings.
5. To demolish buildings erected contrary to the approved plan.
6. Such other matters as the members may suggest.

It is to be hoped that the present Building Act will be amended in some of the ways suggested by this committee, for quite recently a local municipal council found that it had not the necessary powers to intervene to prevent the erection of insanitary and unsuitable houses in the district, and rightly argued that if it were to be responsible for the maintenance of the public health it should certainly have the power to step in and regulate the construction of the houses in which the residents were to live.

FACTORY LIFE.

A Royal Commission has been sitting for some time past for the purpose of investigating the conditions of factory life in New South Wales. A large number of witnesses, both medical and lay, were examined, and the report of the Commission covers the question of the hours of work, the general conditions of employment of females and juveniles in factories and shops, and the effect of the work upon them. The Commissioner remarks in the course of his report that it might perhaps be thought that the objections expressed by some medical men to factory work for young women sprang from too keen a sense of a high standard for popular health, and in some cases were expressed in too strong and sweeping terms; but it was beyond all doubt that the toll at present taken upon the bodily strength of those least able to resist imposition or to endure exaction stood at far too high a figure for the national welfare. The general age for entering on factory life at present is 14, but by special permission of the Minister it may be reduced to 13. The Commissioner gives as the first main conclusion from the medical testimony that the entering age for factory life is too low, and that it should be not less than 16 for girls; as regards boys opinions were divided, but the majority of the witnesses were in favour of the same age for them, while others considered that 15 might not be too early under certain precautions. As regards the hours of work, he says that many considerations go to show that the present working week permits of too great strain on boys and women. These workers cannot, like adult males, work the full limit of their strength without injury to their development, or, in the case of adult women, their health. No child and no woman ought to engage in the strenuous tasks of a factory, and its inevitable indoor confinement for long hours, for the length of time a man can work in outdoor occupations. Remembering the physical traces of fatigue and sometimes of downright exhaustion seen amongst women workers at the end of a week's work, the Commissioner states that he is satisfied that if the object of factory legislation for the unprotected classes of workers is not merely to strike a bargain between the rapacity of capitalists or parents and the claims of the national health, but to put a barrier between defenceless workers and the hindering of their development or the injuring of their health, then the present maximum working week has been left too high when it has been placed on the same level with that of the adult male in most occupations. He further recommends that the maximum working week for women and boys should be forty-four hours. Further, in deference to the opinion of the medical witnesses, it is recommended that overtime for females and males under 18 should be no longer permitted, the medical men having pointed out that all experience of employers and employees goes to show that overtime takes more out of the worker proportionately than the corresponding period of time worked before the overtime began. One of the most important parts of this report deals with the question of the employment of married women in factories, and it is satisfactory to know that the Commissioner speaks most strongly against it, for the following reasons:

1. It is an encouragement to the practice of prevention.
2. It involves risk of miscarriage.
3. If a married woman has children, the necessary abandonment of breast feeding leads to an increase of infant mortality.
4. The day's energy is given up to making money in the factory to the neglect of the home.
5. The practice encourages idleness and extravagance in men.
6. The influence of married women with the unmarried girls is often far from good.

Universal condemnation was expressed by the medical men of the present provision in the Factories Act which permits of women returning to work within four weeks after their confinement. The true regulation of this matter ought to be that a woman should not in any case return to work after her confinement without a medical certificate that she is fit for the actual work which constitutes her duty in the factory.

In summarizing his report the Commissioner considers that the most essential reform is that the entering age should be raised to 16, and that as a corollary the education of children should be continued for another two years, part of which should be spent by girls in gaining some domestic aptitude, and by boys in some technical training.

"WHITE" AUSTRALIA.

The Commonwealth statistician, Mr. G. H. Knibbs, has published a return showing in detail the nature of the non-European population in Australia according to the last census. There are 37,789 full-blood and 14,554 half-caste non-Europeans in a total population of something like six and a half millions in the whole of Australia. Of the non-European people, there are 10,113 Australian aborigines, Chinese 25,772, Hindus 3,698, Japanese 3,576, Syrians 2,423, Malays 1,161, Filipinos 563, Javanese 453, Cingalese 408, Afghans and Baluchis 326, Timores 185, Arabs 42, Asiatic Turks 26, Persians 21, Asiatic Jews 17, negroes, 662, Egyptians 25, American Indians 51, Polynesians 2,197, Papuans 375, and a few of other foreign races. These figures show what a polyglot population we have in this country in spite of the effort to maintain the "white" Australia policy.

Trinidad and Tobago.

THE annual report of the Surgeon-General for the year ending March, 1911, contains reports of the different medical institutions in the colony—namely, the Colonial Hospitals, the Lunatic Asylum, the Leper Asylum, and the District and Yaws Hospitals.

PUBLIC HEALTH.

The reports of the district medical officers show steady improvement in the health conditions of their districts. Educational efforts have been continued, and the diminished prevalence, more especially of the graver forms, of malaria indicates a more general and intelligent appreciation of the subject of prophylaxis and treatment. Many of the district medical officers direct special attention to the increasing prevalence of ankylostomiasis and the high infantile mortality. An ordinance has recently been introduced in the Legislature giving larger powers of control over the former disease, and a scheme for the provision of district nurse midwives in certain districts, submitted by the Medical Board, for dealing with the latter condition, is under the consideration of the Government. The death-rate in Port of Spain was 28.52.

In the different hospitals and asylums in the colony 13,649 patients were admitted during the year, and there were 17,677 out-patients.

PLAGUE.

Twelve cases of plague were reported during the year; 9 cases proved fatal. A large number of rats and mice were destroyed, and out of 19,839 rats caught and bacteriologically examined 11 were found to be plague-infected.

LEPER ASYLUM.

The number of cases of leprosy treated during the year was 338; of these, 31 were discharged and 34 died.

Regarding the presence of the bacillus of leprosy in these cases, out of 80 anaesthetic cases a positive result was only obtained in 9, while out of 105 tubercular cases the bacillus was found in all of them. These figures agree very closely with those of Professor Deycke. The Medical Superintendent of the Leper Asylum (Dr. F. A. de Verteuil) therefore says that it can be laid down as a general rule that the leprosy bacillus is invariably found in the nasal mucous membrane of all patients suffering from tubercular leprosy. The presence of the bacillus is of great practical importance. It affords a ready and valuable diagnosis in all doubtful cases; and it shows that nasal hygiene should be an essential part in the treatment of all leper patients, more especially when these patients are not thoroughly segregated and are living in contact with others. Regarding the treatment by nastin, improvement consists in previously anaesthetic cases becoming sensible—ulcers healing—the muscles of the forearm improve in tone, and the gait in some cases becomes more natural. In tubercular cases the tubercles assume a bronze or brown colour, get softer and smaller, and disappear. The patients feel stronger and their general health improves. Besides the nastin treatment, 9 patients were injected with 0.6 gram of salvarsan; slides taken from these patients showed, as a rule, bacteriolysis; in some of the cases it was very marked indeed; the degenerative process began from ten to fourteen days after the injection. As some of the patients also showed some clinical improvement, there is sufficient reason to give this drug a larger and more extensive trial. Radium has also been tried in 3 cases; Dr. de Verteuil says that it is difficult to formulate any very definite statement, but it seemed to him that radium had a marked influence on the leprotic manifestations. After a couple of applications in one of the cases there was a sensible change in the size of the nodulated infiltration. The application of radium may be of use in removing any disfiguring nodule or infiltration from the face. The 34 deaths reported were mostly due to diseases of the alimentary and respiratory systems.

Appended to the report are a large number of statistical tables showing the number of cases in the various institutions throughout the colony; these are of very little clinical value, and as they occupy about sixty pages of the report could be dispensed with.

Gibraltar.

PUBLIC HEALTH FOR 1910.

THE annual report of the medical officer of health for Gibraltar (Major Fowler, R.A.M.C.) has been issued.

Statistics.

The population returns of the census taken in the latter end of 1910 form the basis for calculating the various rates connected with the vital statistics of the civil community of Gibraltar. The data connected with the military population are not included in the report. The returns show a total civil population of 18,134, in comparison with 18,351 at the end of 1909.

In 1910 there were 390 births, as against 436 in 1909, giving a birth-rate of 25.2 per 1,000. The total births are by far the lowest as yet recorded in the colony, and the birth-rate has only once been lower, in 1907.

The general death-rate works out at 18 per 1,000 living, as compared with 15.09 in 1909. There were 53 deaths amongst children under 1 year of age, equivalent to an infant mortality of 135 per 1,000 births.

Zymotic Diseases.

Measles and scarlet fever were prevalent during the year, but both were of a mild type. Diphtheria prevailed to a slight extent, 13 cases being notified, while there were 14 cases of small-pox. There were 25 cases of enteric fever; there was no common factor which could be accused of giving rise to this disease. The disease nearly always appears during the hot months of July, August, and September.

Pulmonary Tuberculosis.

There were 28 deaths from phthisis during 1910; the cases notified amounted to 66, as against 46 in the previous year. It is probable, judging by these figures, that there are at least 300 persons of the population affected with the disease. With reference to the treatment of phthisis, Major Fowler suggests the establishment of dispensaries for the treatment of patients in the early stage of the disease, as well as the erection of a sanatorium. A committee has been appointed to inquire into and report on the whole subject of consumption in Gibraltar.

Sanitary Conditions.

The general sanitary condition of Gibraltar is satisfactory taking into consideration how closely aggregated the houses are to each other, and the fact that the large majority of the houses are of the tenement order. There are areas in certain districts which would greatly benefit the community at large by being demolished and opened out.

Malta.

ANNUAL REPORT FOR 1910–11.

Vital Statistics.

THE annual report of the Public Health Department for 1910–11 states that the civil population enumerated on April 2nd was 211,473, to which should be added the military families, 1,922; in all, 213,395. The birth-rate was 36.12, as against 36.07 for the previous year. The average birth-rate for the past twelve years was 38.26. The death-rate for the year was 21.42—slightly under 1909–10, which was 22.57. The average rate for the past twelve years was 24.58.

The death-rate of children under one year per 1,000 was 242.46 in 1909–10, while that for 1910–11 was 236.93.

The report states that out of 69 cases of leucocythaemia during the year 66 occurred in children below 5 years of age.

Zymotic Diseases.

The deaths from infectious diseases reported during the year numbered 269. There were 41 cases of small-pox; these were all due to imported cases. Diphtheria cases amounted to 63, with 12 fatal. Enteric fever accounted for 25 deaths out of a total of 95 cases. There were 297 cases of Mediterranean fever with 35 deaths, as against 463 cases and 53 deaths the previous year. The regulations

published in June, 1909, for preventing the spread of Mediterranean fever could not, so far, be carried out in their entirety; still the periodical inspection of goats and the destruction of infected animals and the precaution of boiling milk already show a beneficial result. During the year 13,272 goats were examined; 402 were found infected and destroyed. There were 224 cases of phthisis and 161 deaths—a decrease on the number of the previous year, 280 cases with 192 deaths.

Appended to the report is a short note by Dr. Critien on infantile leishmaniasis in Malta, in which he suggests the adoption of certain principles of prevention—namely, the destruction of all ownerless dogs, the keeping of dogs as clean and free from vermin as possible; babies not being allowed to crawl if there is a dog in the house; the isolation of infected children and the thorough disinfection of their clothing.

Malta has a favourable meteorological record, the mean temperature for the year being 63.8° F., the shade maximum temperature recorded during the year being 92.7° F., with a daily average of bright sunshine amounting to 8.2 hours. The rainfall is small, 18.978 in., which fell on seventy-five days.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

London County Council.

The Milk Supply.

In a long report presented to the London County Council on April 2nd the Public Health Committee dealt with the conclusions of the Royal Commission appointed to inquire into the relations of human and animal tuberculosis and the existing powers of local authorities to prevent the sale of contaminated milk, declaring its opinion that further legislation was urgently required in order to safeguard effectively the milk supply of London. The general conclusions of the Royal Commission, the committee stated, as to the frequency with which infected milk found its way to the public made it apparent that it was the paramount duty of the Council to make further attempts to ensure a pure milk supply for London. In 1909 more than 10,000 deaths from tuberculosis (other than pulmonary tuberculosis) occurred in England and Wales in children under the age of 15. Of this number, 2,806 deaths which took place in children under the age of 5 were attributed to tuberculosis of the digestive system. Having regard to these facts, and putting aside the danger from diseases other than tuberculosis, which did undoubtedly from time to time infect an inadequately supervised milk supply, the committee felt that, although an impure milk supply was only one of various possible and probable sources of tuberculosis, nevertheless it was the duty of public authorities to try and remove any and every cause where possible, and that the eradication of tuberculosis in cattle must be regarded as a public health measure of considerable importance to man. The necessity for legislation to deal with dirty milk was generally appreciated. Examination of samples made for the Council by the Lister Institute showed that a large proportion afforded evidence of undesirable methods of production and handling. Samples of milk containing dung had not been uncommonly noted by the inspectors in the course of their routine work of collecting samples at railway stations. On more than one occasion also samples had been observed to be of a pinkish tint, due to the admixture of blood. Parliamentary action was necessary to arm local authorities with requisite and uniform powers. The powers of public authorities to deal with milk in London at present consisted of the following:

The London County Council.—Power to license cowhouses annually (Section 20 of the Public Health (London) Act, 1891). Power to secure proper conditions in cowsheds and dairies and the sanitary condition of milkshops. Power to forbid the use for human food of milk from a diseased cow, or one having tuberculous disease of the udder. (The Dairies, Cowsheds, and Milkshops Orders of 1885, 1886, and 1899; applicable also throughout the country.) Power to seize and slaughter on payment of compensation any cow in a London cowshed suspected of tuberculosis of the udder. (Part V of the L.C.C. (General Powers) Act, 1904.) Power to take within and outside the county samples of milk coming into London; to examine suspected cows outside London, and to prohibit the sending of further supplies from an infected source. (Part IV of the L.C.C. (General Powers) Act, 1907.)

The Metropolitan Borough Councils.—Power of registration of dairymen, the enforcement of the various Dairies, etc., Orders; power to prohibit supplies from any infected dairy within the county, to prohibit a person suffering from an infectious disease from milking any animal, to seize any article unfit for human consumption, to refuse to register persons carrying on dairies in unsuitable premises; power of enforcement of sanitary regulations made by the County Council, and powers under the Sale of Food and Drugs Act.

The Local Government Board.—May make regulations relating to the importation of any article of food unfit for human consumption. The Board has issued regulations, which come into force in June, 1912, prohibiting the use of preservatives in milk and cream.

Since the London County Council Powers Act, 1907, had come into operation, the bacteriological examination of 7,896 samples of milk of country origin had been completed, 850 (10.8 per cent.) proving tuberculous, 44,307 cows at 1,622 farms without the county had been examined, and 574, or 1.3 per cent., of the animals proved to be affected with tuberculosis of the udder. It was to be remarked, therefore, that whereas 10.8 per cent. of the milk examined was found to be tuberculous, only 1.3 per cent. of the cows were traced as being tuberculous. The disparity in the percentages was largely accounted for by the fact that milk from various cows was blended in the same railway churn; but, nevertheless, it appeared that more tuberculous animals existed than could be traced under present conditions. The Council had power to prevent the sale, within the county, of milk from cows ascertained to be suffering from tuberculosis of the udder only. It was most desirable that this power should be extended to include all cows suffering from tuberculosis with emaciation, or giving tuberculous milk, and the Council had already urged this upon Parliament. Moreover, although the Council could exclude from London milk from a farm without the county, which on examination was proved to be tuberculous, it had no power to require the slaughter or prevent the removal of the animal giving such milk. Consequently, if the animal was moved, all trace of it might be lost, and its milk would be sold for human consumption until again detected. Further, the Council had no powers to deal with milk which, on examination, was deemed to be so filthy as to be unfit for human food.

The Public Health Committee recapitulated the attempts made by the Council to obtain from Parliament the extensions of its powers suggested above. Since 1907 proposals by the Council had been withdrawn or rejected in favour of a plan for dealing with the question on national lines. Pressure of other business, however, has led to the continual postponement of a Government measure. The Committee expressed its agreement with the principle of a settlement of the question on national lines. The proposals made by the Council were necessarily limited in extent, and general legislation was more desirable. To deal in an effective and uniform manner with the question as affecting the whole country, legislation was required in one consolidating Act. In the opinion of the Committee the following points, *inter alia*, appeared to require the consideration of Parliament:

1. To make it possible to deal with a cow suffering from any form of tuberculosis, and to prohibit the sale of its milk.
2. Further powers of supervision of buildings where cows are kept or milk exposed for sale.
3. Power to take samples in any place from the time the milk leaves the cow to the time it reaches the consumer.
4. Adequate penalties to deter from wilful breaches of the law.
5. The more complete supervision of the import trade with a view to providing that imported milk, equally with home-produced milk, shall be subject to proper control.

The Public Health Committee advised that a deputation should wait upon the President of the Local Government Board to urge the importance of effective general legislation with regard to the milk supply being speedily promoted. Failing such general legislation, however, the Government should be urged to assist the Council in its efforts to safeguard London's milk supply, notwithstanding the fact that general legislation would be more satisfactory. In the unfortunate event of the Council having

to renew its own local efforts it should seek to obtain powers as follows:

1. To extend the provisions of Part IV of the London County Council (General Powers) Act, 1904, to any cow suffering from any form of tuberculosis, with emaciation, or giving tuberculous milk, and to the milk of any such cow.
2. Any necessary additional powers to take samples anywhere within the county of milk and milk products in transit and in wholesale and retail establishments; and in the event of such milk being found to be adulterated or unfit for human food to proceed for penalties.
3. Powers for the Council to make orders prohibiting the supply of milk into the county from the dairies or dépôts without the county from which such impure milk was obtained.
4. Such additional powers (if any) as were necessary to enable sanitary authorities to take samples other than on railway premises, and to proceed for penalties.
5. Powers to enable the Council, at its discretion, to pay expenses of any dairyman appearing before it to show cause why an order should not be made requiring him not to supply milk from specified animals.
6. For the application within the county of Section 53 of the Public Health Acts (Amendment) Act (1907), which provides that, if the medical officer certifies to the local authority that any person is suffering from infectious disease which the medical officer has reason to think is attributable to the milk supply within the district, the local authority may require the dairyman to furnish a complete list of all the farms, dairies, or places from which his supply of milk has been derived during the last six weeks.

The report was approved and a deputation appointed to wait on the President of the Local Government Board.

LOCAL AUTHORITIES AND TUBERCULOSIS DISPENSARIES.

Dr. Priestley, the Medical Officer of Health for Lambeth, presented recently to the Public Health Committee a report in which he expressed the opinion that it had become necessary to take measures to classify consumptive patients, and consequently that a tuberculosis dispensary was necessary, an institution primarily established for the examination and treatment, including tuberculin injections of patients, but chiefly useful in the discovery of cases in the early stages of the disease. It was from the tuberculosis dispensaries that the sanatoriums and hospitals or infirmaries would be fed, and the dispensary might best be described as a "sifting" or "classifying" organization. Such dispensaries were also of value educationally in the same way, but not to the same extent as sanatoriums, whilst the leaflets dealing with simple precautionary measures that would be distributed broadcast, would assist in the dissemination of simple knowledge as to the nature and prevention of the disease. At the meeting of the borough council, on March 28th, a letter was read from the Local Government Board stating that the committee recently appointed by the Chancellor of the Exchequer would report at an early date upon the consideration of general policy in respect of the problem of tuberculosis in the United Kingdom in its preventive, curative, and other respects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoriums or other institutions, or otherwise. The Board has deferred consideration of questions on the subject until the committee has reported. The borough council decided to adjourn the consideration of the establishment of a dispensary until the report of the committee has been presented.

BIRMINGHAM AND DISTRICT.

BIRMINGHAM MEDICAL INSTITUTE.

THE financial condition of the Institute calls, it would appear, for serious consideration on the part of the members. Last year, with the aid of a sum of £50 paid by the British Medical Association for the use of rooms in connexion with the annual meeting of the Association, the income and expenditure were nearly equal, but at present there seems to be no prospect of meeting the expenditure for this year. Then, again, no addition has been made to the fund for depreciation of the leasehold during the past two years. It is considered necessary, therefore, that a serious effort should be made to raise a sufficient sum, amounting to about £2,000, to equalize the income and expenditure of the institute if it is to continue in existence, and to provide for the redemption of the leasehold building in the future. A room in the basement of the institute has been let to the Birmingham Branch of the British Medical Association at an annual rental of £12.

Mr. Christopher Martin has presented a Leitz epidiascope, and is defraying the cost of its installation. The library now consists of 14,853 volumes, and during the past year 147 volumes have been added, including a total of seventy-three gifts. Sixty-six periodicals are supplied to the reading room, and of these thirty-nine are foreign and twenty-seven British. The income for the past year was £522, and the expenditure £519.

BIRMINGHAM SANATORIUM FOR CONSUMPTIVES.

The sanatorium for the educational treatment of consumption which was established in Yardley Road by the Birmingham Corporation has been so successful that the Public Health and Housing Committee has prepared a scheme for its extension. The old small-pox hospital was adapted in the first instance, and for the last twelve months a considerable number of patients have been treated. The patients were detained for about six weeks, and during that time they were instructed so as to apply the treatment for themselves when they returned home. In addition these patients also attend the tuberculin dispensary which has been established by the committee in Edmund Street. The existing accommodation at Yardley Road Sanatorium is for between fifty and sixty patients, and the committee desire to provide accommodation for another 150, including children. Altogether eleven sites have been visited, and the committee has decided to recommend to the City Council an extension of the sanatorium in Yardley Road in preference to the erection of a building elsewhere. The necessity for the increased accommodation has been intensified by the extension of the city boundaries, by the fact that no provision exists for the treatment of consumptive children, and because, now that the notification of all cases of consumption is compulsory, more than 100 cases a week are, on the average, reported to the medical officers of health.

TUBERCULOSIS EXHIBITION.

The National Association for the Prevention of Tuberculosis has arranged for an Exhibition in Birmingham during the first fortnight in July. A strong local committee has been formed, and the Corporation has granted the use of the Town Hall for the Exhibition. During the time the Exhibition is open a lecture on the subject of the prevention of tuberculosis will be given each evening—probably in the lecture room under the Town Hall, which has seating accommodation for about 500 persons.

KING EDWARD VII WARWICKSHIRE MEMORIAL.

The executive committee of the King Edward VII Warwickshire Memorial has now completed its arrangements for the purchase of the site selected on Binton Hill, about four miles west of Stratford-on-Avon, for the purpose of erecting a sanatorium. The property is to be temporarily conveyed into the names of Mr. Arthur James (Chairman), Lord Algernon Percy, and Mr. Broughton Dugdale, pending the names of the permanent trustees and the trusts of the deed being definitely decided on.

WALSALL HOSPITAL SUNDAY COLLECTIONS.

The total amount received in 1911 was £285, as against £281 in the previous year, in spite of the fact that the number of contributing congregations has diminished from forty-seven to forty-four. It has been decided for a deputation to wait on all non-contributing churches.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

GOVAN SCHOOL BOARD.

THE report of the chief medical officer for the year ending June, 1911, states that 11,599 routine examinations and 3,989 non-routine examinations were made. The medical officers examined 3,594 necessitous school children; only 5 per cent. were noted as having bad nutrition. Clothing seems to have been satisfactory, as only 7 per cent. were returned as not being sufficiently clad, 7 per cent. were returned as fairly or badly clad, and only 27 children had markedly insufficient clothing. Verminous or dirty conditions were prevalent, and were noted in 13 per cent. of the boys and 31 per cent. of the girls. It

is suggested that the best method of dealing with recurrent cases of this nature consists in establishing cleansing stations where the children could be cleansed and clothes disinfected. Defective vision was found in 8.5 per cent. of the boys and 14.1 per cent. of the girls. Only 11 per cent. of the children possessed good sets of teeth. The medical inspection showed that about 20 per cent. of the children examined suffered from defects calling for a notice to the parents that medical treatment was necessary, but apparently only about 45 per cent. of those notified received treatment. One of the chief defects of the Scottish Education Act of 1908 was that it did not give power to supply treatment. Under the Scottish system there was no legal power to establish school clinics, which would be invaluable for chronic conditions requiring prolonged treatment. The Treasury had granted Scotland the sum of £7,500 for the purpose of medical treatment, but as the share available for Govan was less than £400, this would hardly touch the fringe of the problem.

Royal Edinburgh Hospital for Sick Children.

The fifty-third annual meeting of the contributors was held last week. The directors' report showed that the total number of cases treated in the hospital during the year was 2,031, as compared with 2,034 in 1910. Of these cases, 1,391 were medical and 640 surgical. In the out-patient department 24,513 cases were treated, as compared with 28,315 in the previous year. The ordinary income was £5,987, as compared with £5,937 in 1910. The ordinary expenditure was £8,465, showing a deficiency of ordinary income of £2,478.

In the medical report it was stated that nearly half the number of out-patients were under 2 years of age, a fact which accounted for the necessity of assigning more than one-third of the beds in the hospital to the treatment of children under that age. The report states:

> As a large proportion of these babies and very young children suffer from gastro-intestinal disorders, the staff feel it their duty to suggest to the directors the desirability of considering the question of adding a milk dépôt to the therapeutic resources of the out-patient department. If means were provided whereby the instructions for feeding could be properly carried out, some, at any rate, of the babies now treated in the hospital might be treated as out-patients.

Glasgow Maternity and Women's Hospital.

The same cry for increased financial assistance was raised at the annual meeting of the Maternity Hospital. As a teaching school the hospital attracts increasing numbers of students and nurses, but increasing financial strain made it incumbent on the directors to point out that, unless the capital funds still required were subscribed soon, as well as a very substantial increase in the annual subscriptions, the maternity work of the hospital would have to be curtailed. Though the net deficit at the end of 1911 was £8,717, it was not intended to restrict the work of the hospital before making a very special appeal to the public to raise funds. In moving a resolution appealing for an increase both in capital funds and ordinary income, Sir Donald MacAlister pointed out that maternity hospitals made a special appeal in that every case treated was of the nature of an emergency case involving two lives.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Irish Workhouse Association.

A public meeting, under the joint auspices of the Irish Workhouse Association and the Association of Charities, was held in the Mansion House, Dublin, last week for the purpose of discussing Poor Law reform and the upbringing of workhouse children. The Earl of Mayo, who presided, said that, according to parliamentary returns recently published, there were thirty-two unions in Ireland which had not adopted the boarding-out system in any way at all, and about 5,000 healthy children, and 2,304 who were classed as rich, still remained in workhouses. Nothing like that number, he said, were eligible for boarding out, but it was estimated that 500 of them were eligible. The Association decided to send a deputation to the Vice-President of the Local Government Board to urge it to press boards of guardians to adopt the boarding-out system. He was confident that in another five years there would be few, if any, of the thirty-two unions that had not adopted the boarding-out system. One of the difficulties experienced was to find suitable homes for the children, especially in the poorer districts, and a suggestion was made that, if suitable homes could not be obtained in the district, the guardians might be empowered to board out their children in homes outside their district. It was stated that the present inspection staff of the Local Government Board was entirely undermanned, as there were only two lady inspectors for the whole of Ireland, one having to do the entire North, and the other the whole of the South, of Ireland.

Women's National Health Association.

Lady Aberdeen, who presided at the first annual meeting of the Pembroke Branch of the Women's National Health Association, congratulated those who had taken part in the work of the branch, as the year's report showed that much excellent work had been done. Referring to the Insurance Act, she said that theirs was the only association in Ireland that could give real help in making the provisions of the Act effective with reference to the proper treatment of consumption. All branches of their organization should be ready to do their part in that great national work. In opening a new branch of the association at Dundrum last week, Her Excellency said that the sanatorium benefits of the Act would come into force at once with the bill, and both their branches and members should give a great deal of thought to this matter, as the death-rate from tuberculosis in the Dublin registration area showed a further decline from 1,491 in 1910 to 1,451 in 1911. Since 1907 there had been a decrease of about 6 deaths a week from tuberculosis in Dublin.

National Insurance.

The following resolutions were passed by 13 votes to 3 at a meeting of the Dublin County Council on March 28th:

1. Having regard to the number of employed contributors resident in the county who are not members of any society, and to the large number of persons in the county who will come within the provision of the Act as employed contributors, and for whom no suitable approved society will be available, it appears to this County Council that we should take steps to form such a society under the council.
2. We hereby approve of the scheme, as settled by our committee, for establishing a county society, to be submitted to the Irish Insurance Commissioners, and agree to giving security by means of a charge on the county funds as set out in the scheme.

It was pointed out that the society would have the advantage that in the case of any default from which loss might result to the society's funds that loss would have to be made good out of the county fund by the council, and that the funds which would be available for investment would be left in charge of the Insurance Commissioners and invested by them.

Association of Economic Biologists.

The eleventh general meeting of the Association of Economic Biologists was held on March 28th in the College of Science, Dublin. Professor George H. Carpenter, B.Sc., M.R.I.A., F.E.S., President, occupied the chair; the attendance was not very large, owing, as the President thought, to the coal strike. After the President had given an address on biological training for agricultural students, Dr. R. Stewart Macdougall read a paper on parthenogenesis in *Nematus erichsonii*, a fly very destructive to larch plantations. Dr. G. H. Peythridge, the Secretary, read a paper on the methods employed in testing grass seeds, pointing out that very soon after coming into existence the Department of Agriculture had established a seed testing station for Ireland, where during the past twelve years some 15,000 samples of agricultural seeds had been tested. Mr. P. A. Murphy, assistant in the Division of Economic Botany, Department of Agriculture and Technical Instruction, gave a preliminary note on the culture of the potato blight fungus, with special reference to the formation of oospores. As the result of cultural experiments he had proved that resting spores were formed, probably sexually, and that these were capable of living through the winter. It was probable, therefore, he said, that attacks of potato blight originated from such resting spores. Mr. Walter E. Collinge read a paper on the food of birds. Afterwards tea was provided in the college, and the

laboratories were inspected. Visits were paid to the Royal Veterinary College and the National Museum. The meetings on the second day were held in the Royal College of Surgeons, and there was a good attendance. Mr. H. Hunter read a paper on cereal breeding in Ireland, with special reference to barley. Other papers read were experiments on the pollination of our hardy fruits, fungus in human skin disease, and a note on two new forms of rot in the potato tuber, the latter embodying the results of investigations carried out at the research station established at Clifden, co. Galway, by the Department of Agriculture in 1909 for the closer study of the various diseases of the potato. The afternoon was devoted to visiting the Royal Botanic Gardens and the Albert Agricultural College, Glasnevin.

This association has a membership in Great Britain and Ireland, and there are also a few members in the colonies. It holds annual meetings at different centres, those already visited including London, Birmingham, Manchester, Liverpool, and Edinburgh. The members are biologists interested in the application of biology to agriculture, medicine, fisheries, or any other department of economic importance. The Dublin visit should prove to be of particular interest to the members of the association, as very active work in economic biology is being done in Dublin and the stations dependent on Dublin, under the authority of the Department of Agriculture.

Correspondence.

THE LONDON COUNTY COUNCIL AND THE PROPOSED STERILIZATION OF THE "MENTALLY UNFIT."

SIR,—In your issue of December 9th, 1911, your Special Correspondents reported the proceedings of a meeting of the London County Council held a few days previously, and stated therein that at the close of a discussion "Mr. J. W. Gilbert, who spoke last, was the only member of the Council to declare opposition to the method of dealing with recurrent insanity by sterilization of the insane."

Based on this report, in my address to the Section of State Medicine of the Royal Academy of Medicine in Ireland (January 19th, 1912) I made the following observations:

> Only last month the London County Council, groaning under the yearly increasing incubus of lunacy charges, demanded almost unanimously the sterilization of the unfit. The chairman hinted at "segregation" and "colonization," as well as the "surgical operations—*of course under proper precautions*"! A past chairman is stated to have said: "Though the minds of the insane have gone, their bodies were left, and they propagated their species in an alarming extent," and he, too, demanded the knife.
>
> So spoke the City Fathers of our Modern Babylon, who evidently fail to see any other solution of the problem than the adoption of those measures which the Oriental potentates of ancient Babylon put in force to preserve the chastity of their women. One cannot help wondering whether the progenitors of the members of this Council were in every case free from taint or defect. It would seem morally certain that in such an assembly, drawn from such varied sources, some few at least must have sprung from families which suffered the all-too-common lot of mental affliction. If so, did these individuals pause to think that if the procedures they now so violently demand were in operation a generation ago they would not be now in the enjoyment of existence, and under circumstances which indicate the hall-mark of success in prosperous and honourable careers? The baton sinister of mental defect is to be found on the escutcheon of every family of known descent, though placed in the background by the emblazoned glories of the *honourable ordinaries*.

I understand that exception has been taken to the expression "demanded almost unanimously the sterilization of the unfit," and I am informed that no resolution was moved on the subject, and that there was not a full attendance of the 136 members of the Council. Furthermore, I am informed that the Council, before taking any definite position on this question, have very properly asked the Asylums Committee to submit a report on the causation of insanity and its increase.

We may assume, therefore, that whatever may be the opinion held by individual members, the Council as a body has not committed itself to a view which is open to such grave doubt as is involved in this question, nor will it do so without much careful deliberation. A definite expression of opinion from an important administrative body such as the Council on a matter of such vast interest to the public would go far to influence the attitude of other bodies entrusted with like responsibilities. Hence its decision will be awaited with anxiety by all those who, like myself, are daily engaged in considering the problem of insanity in its many aspects.—I am, etc.,

M. J. NOLAN, R.M.S.,
President of the Section of State Medicine of the Royal Academy of Medicine in Ireland.

Down District Asylum,
Downpatrick, March 19th.

HYPODERMIC MEDICATION BY NURSES.

SIR,—The letter of "G. P." in the JOURNAL of March 16th, p. 644, indicates the very serious rivalry and competition which the general practitioner experiences, occasioned by the enormous growth and development of the "nurse" during the last decade. The general practitioner has himself to blame in a great measure, for he has gradually allotted to nurses the task of passing catheters and administering enemas, and, occasionally, to save himself from being called up at night or otherwise disturbed, the hypodermic injection of morphine.

But this is not the only direction in which the general practitioner loses his place; latterly there has grown up a custom for the "specialist" to go about with his own nurse, who now takes the place of the young medical man who always used to "devil" when operations in private were in progress. Thus the "specialist" saves the fee usually paid to an assistant, and the profession loses, while the unqualified person gains all the advantage. This practice of employing an "unqualified" woman is one that should be curtailed, for it appears to be unfair to the many qualified men and women who are not overwhelmed with professional engagements.

Since the time has now arrived when the unqualified woman takes upon herself to "medicate," assuredly some steps should be taken to control the march of the ubiquitous nurse, who often allows the patient to think she knows more about the case than the doctor.—I am, etc.,

March 18th. RENLIM.

SIR,—Without wishing to disagree with "G. P.'s" point, that it is undesirable for nurses or other unqualified persons to administer hypodermic injections of potent drugs on their own responsibility, I see no reason for his referring in such a sarcastic manner to "such a superior person as the modern nurse." Would he prefer to revert to the ancient style of Mrs. Gamp? The modern nurse is as indispensable as she is overworked and underpaid. All honour to her!—I am, etc.,

March 19th. WOMAN PRACTITIONER.

MEDICAL EDUCATION IN LONDON AND PROFESSOR VON MÜLLER.

SIR,—In a communication to the *Muench. med. Woch.*, No. 6, reference was made to an article in the BRITISH MEDICAL JOURNAL for January 27th, 1912 (No. 2665), entitled "Medical Education in London and Professor von Müller." This article was written by a London teacher anonymously, and dealt with my evidence on university education before the Royal Commission. Although I expressly stated that I had no intention of giving any advice about the possible reform of English medical teaching, and purposely limited myself to a description of the German methods, the author has interpreted my remarks in a manner unfriendly to us, and has uttered a warning against the adoption of the German university system in London, because by this means "incalculable damage would be done." For this purpose the author has drawn a very unfavourable picture of German medical education, hospitals, and doctors, which can only be ascribed to a lack of knowledge of German institutions. This account ought not to be allowed to pass unchallenged.

It is incorrect to say, for example, that the students are under no circumstances allowed to enter the wards and work among the patients. The truth is that the students receive daily instructions in the wards in the various methods of clinical examination, and have the opportunity of personally examining patients under the strict supervision of the professor and the junior teachers. As many

of the students as possible are given definite work in the wards as dressers and clerks, under the name of "Coassistenten." In the larger universities—for example, Berlin and Munich—it is only possible for a comparatively small proportion of the medical students to work in the wards as Coassistenten, but the smaller universities, nineteen in number, which are much more typical of German medical education, give infinitely more opportunity in this respect.

The recent institution of the "Praktisches Jahr," which every doctor is obliged to undergo after his qualifying examination, shows clearly that we in Germany are increasing the practical character of medical education. The author of the note in the *Muenchener med. Wochenschrift* expresses the opinion that the amount of practical work should be increased as much as possible in accordance with the English system, an opinion which I held myself as a result of my more intimate acquaintance with American educational methods.—I am, etc.,

Munich, March 23rd. FRIEDRICH MÜLLER.

STANDARDIZATION OF PANCREATINS.

SIR,—The two letters under the above title from the respective pens of Mr. F. F. Shelley, F.I.C., and Dr. P. J. Cammidge, in your pages of March 9th and 16th, reveal a very serious state of things which has been known to some for several years past. Dr. Cammidge writes (p. 647), "A few years ago I tested samples of all the commercial preparations of pancreas that I could meet with, and was surprised to find what a large proportion were inert." As injections of pancreatic ferments first appeared in medical practice early in 1906 Dr. Cammidge possibly did not refer to such preparations, but it is an undoubted fact that were one to substitute in his letter for "preparations of pancreas" the words "preparations of pancreatic ferments for injection," his statement that "a large proportion were inert" would also be true. None the less, by all the writers who have used such inert preparations—without even knowing that they were inert—and who have dealt with their supposed actions or lack of actions in their writings, it has been assumed that the true character of a pancreatic preparation can be determined merely by reading the label. But, indeed, something more than "standardization" of pancreatic preparations is called for, since, even when "standardized" and put up in ampoules, the further question arises as to the length of time during which particular preparations retain any of their activities. In recent years the pancreatic ferments have been treated as though they were ordinary "drugs," which as a rule retained their properties unaltered, ignoring the fact, well known to some, that they are extremely delicate bodies, which, as active agents, lose very quickly all their original powers and become quite inert. Therefore it is not necessary to suppose that "preparations of pancreas," such as those mentioned by Dr. Cammidge, or injections of pancreatic ferments, had originally (when made up) no ferment powers at all. Possibly in all cases they had *some* powers, even on occasion great ones, but all the chemical evidences I have seen would lead me to believe that something or other in the manufacture of such inert preparations had led to their instability. On mentioning some of the facts concerning such inert ferment preparations to a well-known Glasgow surgeon, he said that it was my "duty to see that this was put right." Well, with deference to him and to you, I venture to think that this "duty" falls more appropriately and very much more effectively to the lot of the Editor of the BRITISH MEDICAL JOURNAL.

Not many weeks ago the writer received unexpectedly certain results of assays of various pancreatic preparations manufactured and sold in England, and the sender, who is a specialist in the study of ferments, remarked that probably the figures would be found "astounding." Indeed, an impartial examination and assay of all the pancreatic preparations at present on sale in this country would, without doubt, give results regarding certain of them not only "astounding" in character, but such as would put quite in the shade similar examinations of patent medicines. This question has been allowed to drift for years, and it is only common sense to ask "How long still shall it be possible to sell as active pancreatic preparations things which often are almost, or even in many cases quite, inert?"

Edinburgh, March 26th. J. BEARD.

THE NEW CELL PROLIFERANT.

SIR,—Mr. H. C. Ross's two statements (p. 523 and p. 646) with regard to the circumstances connected with my refusing to allow my illustrations to be used for a book he is writing differ from each other as to matters of fact. They cannot both be true. I never for a moment supposed that Mr. Ross had seen the only letters I wrote upon this subject, as they were all marked "private." Mr. John Murray, to whom they were written, has, however, given me a quite unnecessary assurance, unasked for, upon this point, so it is evident that Mr. Ross was not and is not in a position to make the statement he did. Unless it be discourteous to refuse any request made by Mr. Ross personally or by proxy, my letters to Mr. Murray were not discourteous.

As to the rest of Mr. Ross's arguments and pretensions, it is difficult to deal with any one who so continually shifts his ground and disregards pertinent criticisms. On March 2nd he complains that "scientists" obstruct his progress by adverse criticism without repeating his experiments. When I point out that I have repeated them and produced the results he describes, but that these results cannot be made to bear the interpretation he puts upon them, he says that "the technics are very difficult," and as I may not have worked upon the correct lines, he cannot accept my opinion. Mr. Ross took some 280 pages to describe in minute detail a technique which is full of sources of error, but I followed it with sufficient accuracy to produce results which agreed in detail with both his descriptions and his illustrations. The difference, then, between him and those "scientists" of whom he complains lies in the interpretation of the results following upon the application of his "technics." What are these results? That when living cells (in Mr. Ross's experiments almost invariably mammalian leucocytes) are placed in certain abnormal environments each of them breaks up into two or more parts. Mr. Ross's interpretation of this is that he has discovered certain substances which so act upon the cells as to induce in them the phenomenon of mitotic or indirect division, a process of which the details have been the constant study of some of the best known biologists for more than thirty years. The acceptance of Mr. Ross's interpretation involves the abandonment of practically everything that has been unanimously accepted by these men, and the assumption that they have one and all shown themselves absolutely incapable of observing the simplest matters of fact. One example of what has to be swallowed in order to agree with Mr. Ross will be sufficient: "The so-called nuclei of leucocytes ought, we think, in reality, always to be called centrosomes, and the word 'nucleus' deleted from their morphology."[1] One might be inclined to consider such claims more seriously did Mr. Ross in his writings show any acquaintance with the work in this particular line which has been done in the past, some of it before he was born. One example will again be sufficient. We are told that: "There is no doubt that the observation of the living cell is a new study."[2] Every biologist knows that, as a matter of fact, it is about as old as the cell theory itself.

On the other hand, it is a matter of common knowledge that when a living cell is placed under certain conditions of environment it is broken up into two or more parts. The difference between this phenomenon and that of mitosis is the difference between the verb passive and the verb active. It is the verb passive which Mr. Ross describes and illustrates, and which I have seen when using his technique. His results correspond with the results of osmotic and other disturbances, and could mislead no one who was at all intimately acquainted with cell phenomena; they are by no means surprising and can be produced by many other methods than those he uses; they bear not the slightest resemblance to mitotic divisions. To interpret the fact that because leucocytes are divided as they are in his experiments, they have been induced to divide mitotically, is just as reasonable as to claim that a man

[1] *Induced Cell Reproduction of Cancer*, p. 13.
[2] Ibid., p. 10.

has actively divided into two men because he has been cut in two by the passage of a railway train over his body.

Mr. Ross, at the end of his last letter to you (March 16th, p. 646), provides an excellent example of his method of thought and reasoning. Loeb, he says, states that agencies which cause cytolysis also cause eggs to develop. This is true with certain considerable limitations which I need not notice here. Mr. Ross claims this as evidence that he is right in believing that his "auxetics" induce mitotic divisions in cells generally, because: "It is with the substances produced by cytolysis that we have for some years past been producing cell division." Mr. Ross therefore thinks, because some agencies bring about cytolysis, that cytolysis must produce these agencies. In other words, that the effect must *produce* the cause, because the cause produces the effect; an attitude, I may perhaps point out to Mr. Ross, quite different from the belief that an effect involves the pre-existence of a cause. It would be just as reasonable to believe that because a sufficient flame from a Bunsen burner will heat a vessel of water to boiling-point, a vessel of boiling water will produce a Bunsen burner giving a sufficient flame.—I am, etc.,

Glasgow, March 17th. CHARLES WALKER.

THE NATURE AND ORIGIN OF CANCER.

SIR,—I do not see what useful purpose can be served by continuing further discussion with Dr. Brock concerning the material or non-material nature of the cell governor whose existence we both acknowledge. He is perfectly entitled to his own opinion that it is something like the will—such a very abstract something that it makes one giddy to think of it. I prefer the clearer atmosphere of materialism.

Dr. Brock quotes the chick as an instance of the impossibility of a material governing secretion affecting its development. I presume he acknowledges that when breakfasting on an egg he is not eating a chicken, but a store of nutriment that was never intended for him, and is a cast-off portion of a feather-covered mass of protoplasm—to wit, a hen; being such, it will contain a due proportion of the governing secretion present in the maternal protoplasm. A psychologist will perhaps assert that a hen loses a little of its abstract cell governor, its will power, every time it lays an egg, until ultimately its will power is minus. Does this explain the hysterical excitement of the feathery biped after laying?

Dr. Brock seems to be able to explain what life is; he attempts to grapple with the very nature of life. Personally I am content to deal with the bodily machinery and its defects, and not to tamper with the "actuating force"—that breath of life which is given to all of us, and which in course of time departs, we know not whither.—I am, etc.,

Wigan. J. THOMSON SHIRLAW.

THE PHYSICIAN AND PATHOLOGIST ON HEART FAILURE.

SIR,—This is a day of letter writing, and so special is knowledge becoming that unless letters are written the special worker must feel in danger of being submerged—always an unpleasant experience. I have read Sir Clifford Allbutt's most interesting address, and have studied it, as I have all his writings, with profit. I have also perused some interesting letters in your columns, and it is, I think Dr. Thomas Lewis's which has stimulated me to ask for a little of your valuable space. He pleads for breathing space and consideration to be given to what he calls the new school of cardiac research, and with which we must all and do all honourably associate his name. This plea recalls to mind a brief conversation with him—which no doubt he has forgotten—in which I humbly asked if a new and valuable journal of which he is editor was open to any other branch of cardiac research but that of the new school. His answer was brief and to the point and somewhat to this effect: Certainly, but it is the only work that is being done. Now comes my lament. I looked upon myself, with Dr. Paine, as the leader of a school which has presented to the country facts upon experimental heart disease which seemed to me, in my modesty, as only second in importance to those of the illustrious Harvey. We have demonstrated simple and malignant endocarditis and their relation to one another, myocarditis, and pericarditis, all of rheumatic origin—itself the great cause of heart disease. We have proved the occurrence of rheumatic dilatation and the focal nature of these lesions, and have placed in the national Hunterian Museum—epoch-making, I believe, is the correct expression—examples of these results. Yet where is our school? What mention of it in Sir Clifford Allbutt's brilliant address? What anguish rent me at Dr. Lewis's laconic reply when I realized that the school which I thought marked a new era in heart disease in this country was dead and supplanted ere my hair was white! Dr. Lewis may thus take heart, for he is not alone in trouble, and perhaps we may both agree that there is no new school in medical research upon heart disease, but only new developments initiated by the labours of those before us. Such, in my opinion, are better not looked upon as new schools, for such a view tends to depreciate collateral inquirers who are not of the same line of thought.

Sir Clifford Allbutt's address deals with problems of extraordinary complexity which no mechanical methods of investigation would seem able to solve for us; but that they will lead us nearer, as will, in my opinion, the experimental investigation of cardiac infections also, there can be little doubt—with this important proviso, that side by side must continue clinical investigation, which derives perpetually new life from these new sources, and is not, as some superficial minds would teach us, dead as regards progress.—I am, etc.,

London, W., March 29th. F. J. POYNTON.

SIR,—In Sir T. Clifford Allbutt's address I fail to see mention made of the effect of food in the stomach as one of the immediate causes of heart failure "in one who scarcely having known illness expires under no extraordinary effort; or in the peace of his own bed or elbow chair passes silently away." The article recalled to my mind the case of a hard-working agriculturist, aged 65 years, who had never had an illness of any moment, whom I was called in to see for swelling of the legs, breathlessness on exertion, cyanosis, and other signs of a failing heart. He was a very difficult case to manage, but by means of rest, diet, etc., he seemed about to enter upon a new lease of life. However, one morning he was given an extra quantity of meal porridge for his breakfast whilst sitting up in bed, previous to getting up for a few hours as usual. His nurse left him for a short time, and on her return found the patient sitting as she had left him but quite dead, with the basin in his hands and almost all the porridge eaten. I think there can be no reasonable doubt that the comparatively large meal enjoyed by him was the immediate cause of death. Whether it caused it mechanically by pressure on the embarrassed heart through the diaphragm, or reflexly through pressure on the vagus fibres in the stomach, or by pressure on the solar plexus, whether reflexly by "shock" owing to the gaseous contents of the intestines being suddenly expanded by hot porridge, or by the vaso-dilator of the abdomen being stimulated, and so depriving the heart of blood, I do not know. It is possible that death was caused by the warm meal stimulating the vagus fibres in the stomach, and so allowing rein to the accelerator fibres, causing a rise in the heart-rate which that organ could not continue, and so sank under the strain.

It is noteworthy in this connexion that many cases of sudden death from heart failure occur in elderly people hurrying to catch trains, etc., after a good meal. Especially is this the case with plethoric individuals taking insufficient exercise, who quite unknown to themselves have often fatty, weak hearts.—I am, etc.,

Liverpool, March 25th. ANDREW S. M'NEIL, L.R.C.P.S.E.

TRAVELLING DELEGATES OF DIVISIONS.

SIR,—I wish to suggest that every Division of the British Medical Association appoint certain members, in number corresponding to the number of immediately neighbouring Divisions one for each. Such members should act as "travelling members," attend the meetings of the neighbour Division to which they are severally appointed, as well as their own, to convey and receive information, and so enable unity of action to be more certainly and readily attained.

Patients, especially near towns, more frequently migrate from one district to an immediately neighbouring district

than to a remote one, and such a course as I suggest would have inestimable advantages, not only in our present crisis but in view of a certain proposition which I shall soon have the honour of laying before the Association.

The possibilities before the profession just now are immense, for good or for evil, according to our ability to seize the moment, and every step which will still further our present remarkable unanimity is worth taking. I intend to propose a resolution at my next Divisional meeting framed with a view to the appointment of "travelling members," such as I have suggested.—I am, etc.,

Wembley, N.W., Feb. 20th. JOSEPH H. CHURCHILL.

THE PROFESSION AND THE POLITICIANS.

MR. WILFRID TRAVERS, A.R.I.B.A., writes from 33, Old Queen Street, Westminster, S.W., to deny, so far as affects himself and Lieutenant MacKinnon, the following statements in Dr. Beckett-Overy's letters published in the issues of the JOURNAL of March 9th and March 23rd: (1) That the Queen's Hall meeting was at any rate partly organized in the Hammersmith Constitutional Club. (2) That the stewards were obtained under the same auspices, and one, a well-known Unionist worker in Hammersmith, was specially told off to mark Sir Victor Horsley.

Dr. Beckett-Overy, to whom Mr. Travers has shown a copy of his letter, writes to say that he had no intention of attacking Mr. Travers in any way, and regrets that Mr. Travers should feel that he has any cause for complaint.

Universities and Colleges.

UNIVERSITY OF DURHAM.

THE following candidates have been approved in the subjects indicated:

THIRD M.B.—*All Subjects:* *F. J. Nattrass, *W. K. Russell, W. Bell, G. A. Berkeley-Cole, R. P. Ninnis, S. Thompson. *Public Health, Medical Jurisprudence, Pathology, and Elementary Bacteriology:* R. E. Bell, L. H. W. Iredale, R. L. Kitching, S. E. Murray. J. L. Pringle, J. S. Soutter, H. J. Shanley, G. E. Stephenson.

* Second-class honours.

Degrees.

The following were among the degrees and diplomas conferred at a meeting of Convocation on March 30th:

M.D.—G. R. East, M. S. Paterson, H. W. Sykes.
M.D. (*for Practitioners of Fifteen Years' Standing*).—S. R. Lister, J. L. Thomas, L. A. Winter, H. de C. Woodcock.
M.B.—E. C. Abraham, R. G. Badenoch, S. P. Benson, F. E. Chapman, J. W. Craven, R. C. H. Francis, L. E. S. Gellé, J. K. J. Haworth, E. Kidd, W. G. Lidderdale, C. Mearns, J. A. C. Scott, W. A. Slater, R. W. Smith.
B.S.—E. C. Abraham, S. P. Bedson, F. E. Chapman, J. W. Craven, L. E. S. Gellé, J. K. J. Haworth, E. Kidd, W. G. Lidderdale, C. Mearns, J. A. C. Scott, W. A. Slater, R. W. Smith, T. R. West.
B.HY.—C. R. Wilkins.
D.P.H.—A. E. L. Wear, C. R. Wilkins.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—*Part I. Inorganic Chemistry and Physics:* J. H. Albinson, R. Colley, Eva L. Glasier, J. Holker, B. L. Lloyd, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Nora H. Schuster, J. B. Wild, J. C. Williams. *Part II. Biology:* J. Brooks, J. D. Byrd, Kathleen L. Cass, R. Colley, Eva L. Glasier, J. Holker, Alice M. A. Holt, B. L. Lloyd, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, Nora H. Schuster, W. Stansfield, L. Walton, J. B. Wild, J. C. Williams.
SECOND M.B., CH.B.—W. S. Booth, J. E. Brooks, N. H. Davison, S. G. J. Dowling, J. G. McKinley, J. F. O'Grady, J. R. Slack.
THIRD M.B., CH. (*General Pathology and Morbid Anatomy*).—Ada L. Bentz, F. C. Bentz, H. C. Duffy, C. W. Fort, H. S. Gerrard, R. B. Gorst, W. L. Nicholson, H. A. Sandiford, P. K. Tomlinson, C. H. Whittall, S. A. Winstanley, H. C. Wright.
D.P.H. (*Both Parts*).—R. J. Batty, Albert Hilton, G. Y. Wong.

UNIVERSITY OF ABERDEEN.

THE following were among the degrees and diplomas conferred at a meeting of the Senate on March 28th:

M.D.—*A. Low, M.A., *A. G. Stewart, M.A., †C. D. S. Agassiz, ‡W. W. Jameson, M.A., ‡J. R. Mackenzie, ‡J. Rennie, R. Eager.
* Highest honours for thesis. † Honours for thesis.
‡ Commendation for thesis.
M.B., CH.B.—*A. F. Legge, *R. R. M. Porter, M.A., *H. R. Souper, M.A., *G. Stuart, M.A., B. G. Beveridge, H. G. Bruce, J. Chalmers, A. Duguid, N. A. Duncan, J. G. Elder, H. T. Finlayson, Margaret R. Forgan, M.A., A. P. Gray, W. Henderson, W. P. Hogg, W. W. Ingram, G. M. McGillivray, N. Macphail, A. C. Macrae, R. G. Martyn, R. W. S. Murray, W. P. Philip, D. O. Riddel, C. M. Stephen.

* Second-class honours.

D.P.H.—W. Allan, H. Duguid.

On the same occasion the degree of LL.D. *Honoris Causâ* was conferred on William Leslie Mackenzie, M.A., M.D.Aberd., Medical Member of the Local Government Board of Scotland.

QUEEN'S UNIVERSITY OF BELFAST.

THE following candidates have been approved at the examinations indicated:

FIRST M.B.—*Chemistry:* G. V. Allen, W. Bryars, A. G. Campbell, G. Chesney, C. D. Crawford, A. C. Dickey, Grace M. English, F. Ewart, E. Freeman, H. E. Hall, J. A. Harbison, W. J. Harvey, J. H. B. Hogg, R. N. B. McCord, N. McCullough, J. P. McGinley, A. G. McKee, B. W. McKinney, M. McMenamin, F. McSorley, P. J. McSorley, H. E. Magee, D. Mitchell, Elizabeth M. Moore, W. Napier, J. O'Kane, Charlotte Pedlow, Margaret S. Purce, C. A. W. Ramsay, R. J. Rea, J. Scott, R. L. Sinclair, Mary G. Thompson, N. C. L. B. Tweedie, E. S. G. K. Vance, J. H. Vance, T. Wallace, D. R. Wheeler, F. H. Whyte. *Physics:* W. Bryars, A. G. Campbell, G. Chesney, C. D. Crawford, A. C. Dickey, Grace M. English, F. Ewart, E. Freeman, H. E. Hall, Mary E. Henry, J. H. B. Hogg, R. N. B. McCord, N. McCullough, J. P. McGinley, B. W. McKinney, M. McMenamin, F. McSorley, P. J. McSorley, H. E. Magee, A. J. Millar, D. Mitchell, W. Napier, J. O'Kane, Charlotte Pedlow, W. H. Pedlow, Margaret S. Purce, C. A. W. Ramsay, R. J. Rea, W. Saunderson, J. Scott, R. L. Sinclair, Mary G. Thompson, E. S. G. K. Vance, J. H. Vance, J. J. Walker, T. Wallace, D. R. Wheeler, F. H. Whyte. *Zoology:* A. C. Taggart, N. C. L. B. Tweedie. *Botany:* D. Corry, W. J. Harvey, Mary E. Henry, A. G. McKee, H. Moore, J. P. Smyth, A. C. Taggart, N. C. L. B. Tweedie.
SECOND M.B.—*All Subjects:* W. K. Campbell, A. E. M. Carleton, R. Condy, F. J. Devlin, W. W. Dickson, M. Gilligan, G. Gordon, W. H. Hardy, D. Jamison, E. A. Mallon, W. T. McCurry, J. McKay, T. B. McKee, F. McKibbin, R. C. McMillan, T. P. McQuaid, J. C. Robb, J. S. Savage, A. F. L. Shields, F. G. Smyth, J. K Stewart, R. F. Walker, J. Warwick, J C. Wilson, R. H. Wilson. *Anatomy* only: J. M. Smith S. A. D. Montgomery. *Physiology* only: H. D. Graves.
THIRD M.B.—*All Subjects:* S. Acheson, T. M. Adamson, W. W. Allison, S. R. Armstrong, W. W. Blair, J. McK. Ferguson, W. Gault, H. M. Jackson, W. S. Lynd, S. McComb, V. C. Montgomery, W. M. O'Farrell, S. E. Picken, J. H. Porter, R. S. Ross, H. A. Skillen, W. J. Smyth, Martha J. M. Stewart, W. Speedy. *Medical Jurisprudence and Hygiene:* J. E. Finlay, E. W. Mann, A. G. Mitchell. *Pathology* only: H. P. Hall. *Pathology, Medical Jurisprudence and Hygiene:* V. Magee.
FINAL M.B., B.CH., B.A.O.—J. L. Brown, F. Carson, P. A. Clearkin, T. D. Graham, W. Megaw, E. Morison, S. I. Turkington, D. V. S. Willis, J. A. L Wilson, W. Wilson.
D.P.H. (*Both Parts*).—T. A. Adams, M.B., H. Black, M.B., E. H. Condy, M.B., J. McCloy, M.B., S. K. McKee, M.B.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Monday, April 1st, Sir Thomas Barlow, Bart., K.C.V.O., President, being in the chair.

President's Address.

The President, in delivering the annual address, referred to the Royal honours and distinctions which had been conferred on Fellows, Members, and Licentiates of the College during the past year. He mentioned the medals and scholarships which had been awarded, and gave a brief review of the lectures which had been delivered, referring especially to the Harveian oration by Dr. C. Theodore Williams. He considered the financial condition of the College, and detailed the bequests which had been given to the College. Among the important subjects which had occupied the attention of the comitia, he laid stress on the relation of the London University to the College, and on the discussions which had taken place in reference to the Insurance Act. He mentioned that Mr. F. G. Hallett had obtained permission to proceed to America in order to explain the system and organization of the examinations of the Royal Colleges to the medical authorities of that country. The President then read short obituary notices of Fellows of the College who had died during the past twelve months: Samuel Jones Gee, George Fielding Blandford, Frederick William Pavy, John Hughlings Jackson, William Richard Huggard, John Alfred Coutts, Sir Samuel Wilks, Edmond Fauriel Trevelyan, Cecil Yates Biss, and Sir William Henry Allchin.

Vote of Thanks to the President.

Sir William S. Church proposed a vote of thanks to the President for his address and for the manner in which he had conducted the work of the College during the past year; this was seconded by the Treasurer (Sir Dyce Duckworth) and carried by acclamation. Sir Thomas Barlow thanked the College and vacated the chair.

Re-election of President.

The election of President then took place, and Sir Thomas Barlow was re-elected by an almost unanimous vote. The Senior Censor (Dr. J. Mitchell Bruce) delivered to the President the insignia of office, and the President gave his faith to the College and thanked the Fellows for the honour they had done him by again electing him.

Communications.

The following communications were received:

1. From the Secretary of the Royal College of Surgeons, reporting proceedings of the Council of that College on February 1st and March 14th.

2. From the Royal Sanitary Institute, asking the College to appoint delegates to a congress at York on July 29th next. The invitation was accepted.

3. From the Committee of the International Congress of Hygiene and Demography, to be held at Washington in September next, asking the College to take part in the congress. The request was granted.

4. From the Secretary of the International Historical Congress, to be held in London next year, asking the College to nominate a representative on the General Committee of Organization. The Harveian Librarian (Dr. Norman Moore) was appointed.

5. From the President of the Royal Society, asking the College to nominate a representative who shall take part in the celebration of the 250th anniversary of the society to be held July 16th to 19th next. The President consented to represent the College.

6. From the Secretary of the Bicentary Festival of the Medical School, Trinity College, Dublin, asking the College to send two representatives to the festival to be held July 4th to 6th next. The nomination was postponed until the next Comitia.

Sir George H. Savage was appointed a representative of the College on the Committee of Management of the Chelsea Physic Garden, in place of Sir William Allchin, deceased.

Reports.

A report dated March 19th, was received and adopted from the Committee of Management. The report recommended:

1. That the following institutions which had been visited by members of the Committee and reported as fulfilling the requirements of the Board, be added to the list of institutions recognized by the Examining Board in England for instruction in chemistry and physics:—Maidstone: Technical Institute. Cirencester: The Grammar School.

2. That the following universities be added to the list of foreign universities whose graduates are exempted from the first and second examinations of the Board under the conditions of paragraph IV Section III of the regulations: Tulane University of Louisiana; Howard University, Washington.

3. That the course of laboratory instruction in public health given at University College and the City Bacteriological Laboratory, Nottingham, be recognized for the diploma in public health.

Insurance Act.

A report from the Insurance Act Committee, appointed at the last Comitia was received and adopted. The report was as follows:

I. At the first meeting (February 7th), in response to a letter from a similar Committee of the College of Surgeons, it was resolved to send delegates to confer with delegates from the Committee of the College of Surgeons. [A meeting of these delegates was held on February 13th, at which the discussion chiefly centered upon the advisability of conferring with other bodies.]

II. At the second meeting of the Committee, held on February 20th, a letter from the Society of Apothecaries having been read which expressed their desire to meet the Royal Colleges in conference, it was resolved, subject to the approval of the College of Surgeons, to call a conference of the Committees of the College of Physicians, College of Surgeons, and Society of Apothecaries.

III. A conference of these three bodies was therefore held at the College on March 5th, at which 33 representatives attended, and it was decided to invite the Medical Faculties of the Universities of England and Wales to send each a representative to the next conference.

IV. A second conference was held at the College on March 21st, at which were present Representatives of the Medical Faculties of the Universities, of the College of Physicians, of the College of Surgeons, and of the Society of Apothecaries (40 in all); and the following resolutions were passed:

1. That it be recommended to the constituent bodies of this Conference that they sanction its formation as a Joint Committee for watching the interests of the medical profession in regard to the Insurance Act, and considering alternative methods of attaining the objects of the medical portion of the Act
2. That an "Agenda Committee" be formed, to consist of ten members of the Conference, resident in London; the Presidents of the two Colleges, the Master of the Society of Apothecaries, and the Registrar of the College of Physicians (as Secretary), being *ex officio* members thereof, and the nomination of the remaining members being left in the hands of the two Presidents.
3. That a resolution in the following terms be sent to the public press:

> That this Conference, in which are represented the Medical Faculties of the Universities of England and Wales, the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries, recognizes that there is a remarkable unanimity of opinion within the medical profession as to the attitude which its members should adopt towards the working of the National Insurance Act of 1911.
>
> This Conference desires to place on record its general approval of the principles which inspire that attitude, and while conscious that there is some difference of opinion with regard to details, expresses its willingness to support the demand that these principles should be recognized by those who are responsible for the administration of the Act before medical practitioners consent to work under it.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†W. G. Fraser, *†J. Leach, *†P. McGinnis.
MEDICINE.—*H. Cox, *†J. Leach, †M. J. E. R. Le Dentu, †G. Meyer. R. A. Robinson.
FORENSIC MEDICINE.—W. G. Fraser, J. Leach.
MIDWIFERY.—W. G. Fraser, W. C. Himely, J. Leach.
* Section I. † Section II.

The diploma of the Society has been granted to Messrs. W. G. Fraser, J. Leach, M. J. E. R. Le Dentu, and G. Meyer.

Obituary.

RICHARD ARTHUR PRICHARD, M.R.C.S.Eng., L.R.C.P.Edin., J.P.,

EX-PRESIDENT, NORTH WALES BRANCH, CONWAY.

ONE of the most prominent public men, and a well-known practitioner in North Wales, passed away on Monday, March 11th, in the person of Mr. Richard Arthur Prichard, Conway.

He was born sixty-eight years ago at Pwllheli, in South Carnarvonshire, and educated at the Bottwnog Grammar School. After serving an apprenticeship with Mr. Robert Roberts, of Portmadoc, an eminent surgeon in his day, he entered as a student at the Dublin School of Medicine, and qualified as M.R.C.S.Eng. and L.R.C.P.Edin. in 1867. Shortly afterwards he commenced practice at Conway, where he soon established a reputation as a successful practitioner, and became a prominent citizen of that ancient borough. He was one of the few surviving members of the old corporation of Conway under King Edward the First's Charter, and when the first reformed corporation was elected he headed the poll as Councillor. For several years he had been an Alderman, and six times held the office of Mayor and Constable of the Castle. In 1885 he was placed on the Commission of the Peace for Carnarvonshire, and was one of the oldest, most valued, and regular members of the Bench. Since its formation twenty-four years ago, Mr. Arthur Prichard had been a member of the Carnarvonshire County Council, and in 1909 he was elected Chairman of that body. Advantage was taken of this occasion to recognize his good work in the public service, and he was presented with a handsome motor car.

He held the appointments of Medical Officer to the Conway Union and Workhouse, Surgeon to the Police, Medical Referee under the Workmen's Compensation Act, and was at one time District Surgeon to the Carnarvonshire and Anglesey Infirmary. He took a keen interest in the Volunteer movement. For many years he held a commission in the 2nd (afterwards the 3rd) Volunteer Battalion of the Royal Welsh Fusiliers, and for the greater part of that time he acted as Mess President, a position which he filled with great credit and satisfaction. He retired with the rank of Surgeon-Colonel, and was given the Volunteer Officer's Decoration.

In the North Wales Branch of the British Medical Association he took a prominent part. At the time of his death he was the oldest member. In 1884 he filled the Presidential chair, and for many years had been a member of the Branch Council, where his sound judgement and business tact were invaluable. In the next annual meeting of the Association in Liverpool he had been appointed one of the vice-presidents of the Navy, Army, and Ambulance Section. In Freemasonry he was a Past Master of the St. Trillo Lodge, and a Past Principal of the Conovum Chapter, and had held high rank both in the Provincial Grand Lodge and Grand Chapter of North Wales.

He was a zealous Churchman, had served the office of churchwarden, and taken a deep interest in the restoration of the old parish church. In politics he was a staunch Conservative, and was the Chairman of the local Constitutional Club, but he never allowed politics to interfere with his work for the welfare of the borough and its inhabitants.

Mr. Arthur Prichard was a marked personality—a personality winning, attractive, and affectionate, full of good nature, sympathy, and kindness. His presence in the sick room was always welcome, and probably no man was ever more loved by his patients, rich and poor alike. His charity, always dispensed in a quiet unostentatious manner, knew no bounds. For over forty years he gave

of his best, and his death leaves a gap which will ever remain in the memory of the present generation.

He was laid to rest at St. Agnes's Cemetery, Conway, on March 15th, amid manifestations of general grief. The funeral was attended by representatives of all the public bodies, and it was with difficulty that the route to the parish church, where the first portion of the service was held, could be kept clear, so anxious were the inhabitants of the whole district to pay their last tribute of respect to their old doctor.

Mr. Arthur Prichard was a widower, his wife having predeceased him by a few years. Though he leaves no near relatives, yet he leaves a host of friends to mourn his loss, and his memory will ever be blessed by the poor of Conway, who have lost in him a true, sympathetic, and helpful friend.

The late Sir William Allchin.—"R.A.M.C." writes from the other side of the world: Your recent obituary notice of Sir William Allchin contains a pleasing reference, by an old Westminster man, which I am sure many would endorse. Allchin emphatically hated second-hand methods of acquiring knowledge; he encouraged students to exercise observation and reason, and to let memory occupy a secondary place. He had a certain caustic but at the same time genial humour, and, although I do not believe he ever maliciously "sat on" a student in his life—for he was the kindest of men—he had a peculiarly expressive manner, which the present writer knows to his cost, of showing his appreciation of textbook erudition in the wards. That Allchin's principle was essentially sound no reasonable person can doubt, and if more widely followed it would go some way towards replacing an infinity of useless facts by a certain quantity of useful knowledge.

The late Dr. T. L. Pennell.—At the request of members of University College, London, of which, as stated last week, Dr. Pennell was a distinguished student, a memorial service was held on March 28th at St. Pancras Church. University College was represented by the Provost (Dr. T. Gregory Foster) and the Secretary (Mr. Walter W. Seton); University College Hospital Medical School by the Dean (Mr. Raymond Johnson); the Church Missionary Society by the Rev. Cyril Bardsley; the Society for the Propagation of the Gospel by the Rev. Canon Robinson; and the University College Christian Association by the President (Mr. F. Rowan), and the Secretary (Mr. R. T. Elworthy).

Medico-Legal.

NOTIFICATION OF BIRTHS ACT.

There seems, as the magistrate at the Thames Police Court said when hearing a case brought by the Stepney Borough Council, to be some friction caused by the way in which the Notification of Births Act is administered in that borough. Dr. Harry Roberts, of Mile End, who was summoned for failing to notify the birth of a child on January 8th until February 23rd, pleaded that there had been remissness on the part of the public health department of the borough in supplying cards for notification. He pointed out that under the Act the council was bound to supply stamped cards. The magistrate, while, as we have noted, observing that friction had arisen, said that it was clear that the defendant's attention had been called to the matter and imposed a penalty of 7s. and 23s. costs, and added that he hoped the friction would now stop. The medical officer of health seems to have admitted that he had received 280 cards out of a total of 310 supplied to Dr. Roberts.

INFORMATION TO CORONERS.

Dr. J. C. Bhuttacharji.—(1) A medical man, one of whose patients has died as the result not of a natural disease, but of an injury, has fulfilled his legal duty when he has either (*a*) refused to give a certificate, or (*b*) given a certificate making the primary cause of death perfectly clear. (2) When the case is one in which it is known that an inquest will have to be held, it is sometimes a convenience to all parties to send information to the coroner of the occurrence, but there is no statutory obligation to do so. (3) No one has a right to complain of the omission to send information not required by law to be supplied, and a coroner who desires to secure that the medical man in his district shall give such information is likely to defeat his object by public animadversions on the subject.

Public Health and Poor Law Medical Services.

SUPERANNUATION.

R. R. asks: (1) Whether he "can claim superannuation on his vaccination fees." (2) Being medical officer for a workhouse and a district, whether he can "claim superannuation for the former and retain the latter," the two appointments "going together," but with separate salaries.

*** (1) Public vaccinators cannot claim superannuation under the Act of 1896. (2) As the two appointments in question are described as "going together," we much question whether our correspondent would be able to resign one and to claim superannuation thereon while still holding the other; even if this could be arranged, he would in the future be under the disadvantage of having to submit to his superannuation allowance being lessened by the amount of salary he might receive so long as he continued to hold any office under the guardians.

Medical News.

At the meeting of the Medico-Legal Society to be held at 11, Chandos Street, W., on Tuesday, April 16th, at 8.30 p.m., Dr. F. J. Smith will read a paper on the law and practice of *post-mortem* examination.

At a well-attended meeting of medical men of Wimbledon and district on March 29th it was decided, on the motion of Dr. Powell Evans, seconded by Dr. Cowie, to form a Division of the British Medical Association for the district, and Dr. E. A. Purcell, 44, Queen's Road, Wimbledon, was appointed Secretary *pro tem.*

Argylls, Limited, inform us that they have received from San Julian, Patagonia, a letter stating that an Argyll car, standard colonial type, in use there is giving every satisfaction, being well suited to the trying conditions of the country.

Dr. William Slingsby Mann of Edgbaston was presented recently by a number of friends with a cheque, a bicycle, and an illuminated address testifying to their regret at his approaching departure from the town and to the esteem which he has gained during his forty-eight years' work therein. For many years Dr. Mann served as honorary secretary to the Midland Medical Society, and for upwards of twenty years was honorary surgeon to the Birmingham Lying-in Charity, to which he is now consulting surgeon.

An interesting lecture on "The Ideal Garden City of the Future" was delivered by Dr. A. Herbert Hart at the Caxton Hall, Westminster, on March 28th in connexion with the third annual Simple Life and Healthy Food Conference and Exhibition. The ideal site for a garden city was, he said, London itself, but a transformed London, with a limited radius of twelve miles from Charing Cross, encircled by a wide road and a belt of forest land. This "national circumferential fringe or breathing space" would form the city lungs, and beyond it would be the garden city proper, the residential portion of London, the land within the twelve mile radius being reserved for factories, offices, etc., each constructed on sound hygienic principles. Without the garden city would be a chain of garden suburbs extending from Harrow to Eton, and gradually spreading throughout England. The lecturer declared that the only real antidote to the horrible evils of the slums, and the only real cure for the submerged tenth, lay in some such system of garden cities, where the poorest people could live a healthy outdoor life amid decent surroundings. The need for garden cities in all parts of England, he concluded, was all the more imperative inasmuch as they provided a means of checking infant mortality, the death-rate amongst the children in garden cities showing a drop of 10 per cent. as compared with the mortality in other places.

The annual meeting of the National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen Square, Bloomsbury, was held on March 29th at Devonshire House, Piccadilly. Sir Frederick Macmillan was in the chair, and amongst those present were the Duchess of Albany, the Duke of Devonshire, the Dean of Canterbury, Sir William Baillie-Hamilton, Dr. Buzzard, Dr. Turner, Dr. Ormerod, Mr. Reginald Lucas, and Mr. Arnold Royle. The Chairman presented the annual report, in which it was stated that 1,254 in-patients and 7,281 out-patients had been

treated at the hospital during the past year, whilst the total receipts amounted to £16,419, as against the £14,454 received in 1910. There still remained, however, a deficit of £1,266. An important addition had been made to the hospital during the last twelve months in the form of a complete equipment of the gymnasium and physical exercise ward, an improvement rendered possible by the Jubilee Fund. The adoption of the report was moved by the Dean of Canterbury, who commented upon the wonderful advance made in recent years with regard to the treatment of obscure nervous disorders, and deplored the fact that there were at present as many as 120 patients waiting for admission into the hospital, who, owing to lack of space, might have to wait a considerable period and so lose all chance of permanent improvement. Mrs. Archibald MacKirdy (Olive Christian Malvery), who seconded the motion, spoke of the blessing the hospital proved to people who had never known the meaning of the words peace and comfort, and said that such institutions helped to show the poor that their sufferings were really cared for by their more fortunate brethren. The report having been adopted, Lord Strathcona and Mount Royal was unanimously re-elected President, and Sir William Baillie-Hamilton, Mr. Reginald Lucas, and Mr. Arnold Royle were re-elected to the Board of Management. The Duke of Devonshire, in responding to a vote of thanks for the use of his house, remarked that the time was coming when much of the money now devoted to charitable purposes would be at the disposal of others than its owners, but he felt that the system of maintaining hospitals and charitable institutions by voluntary contributions was so deeply ingrained in the national character that the present generation, at any rate, would not allow it to fail. If the work was not done by voluntary contributions it would have to be done by the State; and without wishing to say anything to the discredit of the State, his hearers might take it from one who had sat in the House of Commons, and had had some experience of the Treasury, that work done by voluntary effort and private contribution was infinitely better done than by public money worked by public officials.

AT a meeting of the Eugenics Education Society at the Grafton Galleries, on March 21st, a discussion on "Nature and Nurture" was opened by Mr. E. J. Lidbetter. Mr. Lidbetter contended that efficiency was primarily a question of inheritance, and environment did not create, but merely developed and supplemented such qualities as already existed. Defective stock was constitutionally incapable of improvement, no matter what the opportunities given. So much was this the case that response to external influences must ultimately come to be regarded as the test of good stock. What was really needed for the moral and physical well-being of the race was the prevention of the constant intermingling of good and bad stock by marriage, whereby Nature's tendency to extinguish the latter was frustrated. Defects, far from being weeded out by the introduction of good blood, seemed to derive from it fresh strength to perpetuate; and a healthy and normal family might be vitiated by a single ill considered marriage with a member of an abnormal one. Speaking generally, it might be said that among the working classes no selective force was in operation; in the great majority of cases they drifted into marriage in the same way that they drifted through life. It might be sufficient to say that ordinary sanction to a marriage was a far more effective instrument than a public control of the right to marry would prove, and that if mothers and matchmakers could be persuaded that in marriage social status counted for a good deal, something might be done towards helping the right selection. Major Darwin, who presided over the meeting, remarked that there were many changes in environment intended to be beneficial which would not have the desired result, as, for instance, those which threw an extra weight upon the well-to-do for the support of the poorer classes. Nevertheless, there were some which all eugenists would like pushed forward with the utmost force, especially such as were intended to give a good start in life to the young, and which would in consequence prevent thousands of unfortunate and aimless marriages. The strict adherence to eugenic principles with regard to marriage, however, was strongly deprecated by a medical man who spoke. He pointed out that if a careful examination of the pedigree on either side became a necessary preliminary of marriage, that institution would speedily die a natural death. Disease was a natural inheritance from which mankind could never hope to be entirely free; but happily nature had a merciful way of eliminating the unfit, and they would do well to trust more fully to her time-honoured methods of preserving the efficiency of the human race.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

D. R. asks whether any ill effects, such as eye strain, nystagmus, or headache, have been traced to watching cinematographs.

MEDICO recovering from acute rheumatism would like to hear from others of the best watering place (inland or otherwise) to go to at the end of April or beginning of May.

H. A. P. asks for advice in the treatment of a patient, aged 64, who is troubled with an offensive sour smell from the scrotal region. It is noticeable only in winter, and appears to be aggravated by the heat of thick trousers and drawers. It does not develop in tropical climates. It is not modified by scrubbing with coal-tar soap and powdering with boric acid.

PRACTICE ON PASSENGER SHIPS.

M.D.—In principle there would seem nothing in the circumstance of life on board ship to differentiate medical work there performed from corresponding work on shore. On shore a medical man is legally entitled to treat any one who seeks his services, but ethically it is usually considered improper for a medical man who finds himself temporarily resident in a small community to undertake medical work except in consultation. The person officially responsible in medical respects for every one on board ship is the ship's medical officer. Hence if a passenger applies for treatment to a medical man who happens to be a passenger likewise, the right course would seem to be to decline to afford it except in consultation. Strict adherence to ordinary principles would seem all the more desirable because quarantine authorities would accept no statement as to the health or death of a passenger from any one but the ship's medical officer.

"DEAD FINGERS."

C. F. would be glad to hear of any suggestion for the treatment of the following case: A nursemaid, aged 23, robust and otherwise quite healthy, suffers from periodical attacks of vascular spasm in the fingers of each hand. The thumbs are not affected, and there is a distinct line of demarcation across the back of the hands where affected just above the knuckles. The fingers are affected in variable numbers—one, two, or three at a time. The attack comes on suddenly; the affected fingers become dead white, cold, and senseless, and feel heavy to her. It may last five minutes or two hours. On the return of the circulation a hyperaemic blush extends down the fingers, accompanied by a tingling sensation and sweating. She may get as many as five attacks in the day. She is more liable to it on cold days, but is not necessarily free in the summer. Also if she goes out insufficiently protected in a cold wind the front of her chest may become similarly affected.

AN EARLY CASE OF SYPHILITIC INFECTION.

MR. JAMES H. THOMSON, M.B. (Southport) writes: A married woman, with five children, aged 34, was probably infected with syphilis last May. She did not seek any advice until the following November, when on examination she was found to have the following manifestations: Mucous patches inside mouth, ulcers of the fauces, a diffuse rash simulating erythema multiforme, iritis of right eye, enlarged lymphatics, husky voice, scanty hair falling out rapidly, pains in the bones, and well-marked tremor of hands. She was treated in the usual manner, and commenced to improve rapidly. She received the usual careful instructions as regards the infective character of the disease. On March 9th this year I was called in to see the youngest child, a female aged 2 years, and found a large primary syphilitic sore on the mucous side of the right labia majora. The superficial lymphatic glands

were also palpable universally throughout the body. Could the child have been infected by the mother when wiping it either after a bath or defaecation? The mother when questioned about her own infection said that a man who had been staying in the house during the early part of last year "had a large sore just below his knee." Further questions elicited the fact that the primary disease in the mother was also in the labia majora. From what could be gathered, although the man was not seen, he appeared to be in the tertiary stage at the time of infection.

ANSWERS.

DR. E. T. WITHINGTON (St. Mary-Church, South Devon) writes: In reply to "G. B.," *Lycoperdon giganteum* was largely used as a styptic in the seventeenth century by Adrien Helvétius, a celebrated practitioner, who received 1,000 *louis d'or* from Louis XIV for his treatment of dysentery by ipecacuanha, and was grandfather of the French philosopher, Helvétius. He describes *Crepitus lupi*, as the great puff-ball was then called, as "the best of haemostatics," which stops bleeding *d'une manière surprenante* without the pain or scarring caused by other styptics. Many country people, including the writer, can testify to its value p.r.n. after shaving.

PROSTATECTOMY.

DR. SHEPHERD BOYD (Harrogate) writes in reply to "M. C.": I have recently passed through, on behalf of two patients, the anxiety "M. C." has expressed in his letter, and I can tell him that in six weeks after the prostatectomy the urine was normal and urination of normal frequency. There is not much pain after the operation. A patient of 70 walked about six weeks after operation, and under three months feels and looks better than he has for years. My advice in reply to the last question is Yes.

FLATULENCE AND SHIVERING DURING PREGNANCY.

DR. J. REGINALD BENTLEY (Limpsfield, Surrey) writes: If "X." will have a catheter specimen of the patient's urine examined bacteriologically he will probably find the *Bacillus coli* present. In two cases with the identical history I have found this condition, which was relieved by helmitol grains x in ʒvj of water three times a day after food, continued until term.

H. F. W. writes: In reply to "X.'s" query, his patient's flatulence would probably be greatly relieved by pulsatilla. A couple of drops of the tincture two or three times a day, discontinuing when decidedly better, resuming if symptoms recur.

PATER writes in reply to "X.": As the flatulence is clearly from imperfect digestion and fermentation I would advise the following powder to be taken three times a day with meals: Pepsine pulv. grains v (of good quality), guaiacol carb. grains iv, pulv. aloes, Barb., grain ½, pulv. capsici grain ½; ft. pulv.

LETTERS, NOTES, ETC.

DR. W. A. BERRIDGE (Redhill) writes: I send an interesting memorandum written by the patient herself, who died on July 1st, within a week of her 81st year, of senile decay and heart failure. She had worn a tracheotomy tube for over fifty years. She always spoke most warmly of the kindness of her dressers—Mr. Owen and Dr. Hilton Fagge.

Mrs. Wilkins.—The end of Jany 1851 I went to see Dr. Cock of St. Thomas Street London from that time to the 30th of March I was under his treatment he then said I must go in the Hospitle at once as I required daily treatment as the back of the Throat was growing to the root of the Tongue blocking up all passages and would have to go under opperation or I should choak on the 1 of May 1861 I went to Guy's Hospitle and was taken in at once to Charity Ward on the 10th May 1851 Dr. Hilton opperated on me Mr. Owin being my dresser and Mr. Fagg being my dresser when Dr. Hilton devided my Throat the First time Mr. Owin and Mr. Hilton Fagg being my dressers the worst of my time not remmembering the others names I have been in Guys Hospitle sixteen times going under opperations three and four times each time—as after I had been away from the Hospitle a short time my Throat began to close I had then to go back at once and so I continued for sixteen times once a German Doctor came to examine the Throat he informed Dr. Hilton he would get a Passage large enough for me to swallow in coarse of time he allso said he was affraid I should never be able to live without the Tube in my Throat as I could not breath through my nose Mr. Montifeire visited the Hospitle opperation day's, and took much Interest in the case The Doctors were Dr. Cock, Dr. Hilton, Dr. Berket, Dr. Cooper Foster, Dr. Powland, Dr. Durram, Dr. Stocker, Dr. Steele and many others.

A LOCUMTENENT.

DR. A. G. BATEMAN (General Secretary of the Medical Defence Union, 4, Trafalgar Square, W.C.) writes: Should any of your readers who may advertise for a locumtenent in the JOURNAL receive an application from a Dr. Covey, may I be allowed to advise them before accepting such application to communicate with me?

PRIVATE NURSES AND NATIONAL INSURANCE.

MR. P. HAMILTON ROBERTSON, M.B., Honorary Secretary, Scottish Nurses' Association 5, Kelvin Drive, Glasgow, W., writes: Considerable doubt and anxiety seems to exist in the minds of many private nurses as to whether or not private nurses must insure under the National Insurance Act. On behalf of the Scottish Nurses' Branch of the Women's Friendly Society, the Commissioners have been specifically asked, "Must nurses working on own account insure?" The Commissioners have replied: "Generally speaking, nurses working on own account will be liable to be compulsorily insured unless the rate of their remuneration exceeds £160 a year." It therefore seems clear that under ordinary circumstances all nurses must insure.

LAVATORY USERS.

M.D.DURH.—"Sanitas sanitatum, omnia sanitas" is my excuse for venturing on a letter which may seem uncalled for; it is not. In all public lavatories as well as semi-public ones—for example, clubs, and in private houses—users should, "immediately" they are relieved, pull the chain or draw up the handle, and "afterwards" attend to toilet. By so doing effluvium will be much diminished not only for the user of the lavatory, but, what is of a nice importance, to the successor and the house generally. Such advice should not come amiss from a doctor, and your thousands of readers could by giving this hint do much.

BORIC ACID.

DR. D. E. ANDERSON (Highgate, N.) writes: In the issue of the BRITISH MEDICAL JOURNAL of March 16th, p. 605, your correspondent gives an account of two cases of poisoning by boric acid when given as an enema. But my personal experience is just the reverse. During a serious attack of typhoid fever twenty-seven years ago in Paris I was given drachm doses of powdered boric acid twice and thrice a day in mulberry syrup and water, with no bad effect, excepting an annoying rasping sensation at the epigastrium, and vomiting for hours after. There was no erythema or any symptoms or physical signs of poisoning. Salol was at that time not in vogue, and boric acid was given as an antiseptic and germicide, evidently with good results, for although the second and third weeks of the fever were bad, the temperature and diarrhoea disappeared at the commencement of the fourth week. I have not heard of any other typhoid fever patient treated in this way with boric acid, and have myself never prescribed it for that fever, but I have seen fishes live in boric acid baths.

"A GOOD THING FOR SATURDAY."

J. L., who resides in a county town, writes: *Re* the letter of "G.C.S.," entitled "A Good Thing for Saturday," I recognize an old acquaintance. He is a well-set-up person and drove here in a motor "from Epsom." He told me that he had a son who was suffering from pulmonary disease, and that he knew I had written about early signs at the apices. I thought he might have gone to London, but when he squeezed out a tear and spoke in a voice broken with emotion, what could I do but promise to see him the next day at 2.30 p.m.? Half choking with emotion he said, "Spare no expense—take him into a home near you," etc. As he left he said he was going to a Newmarket "meeting" where he always met his old friends. He added a question, "Do you ever back a horse?" I said I did not know the head from the tail at a certain distance, and he left. He called to my knowledge on two of my *confrères*. He wanted to consult the first about a sick wife, and the other about a sick daughter, as he had heard they were "specializing." In answer to the question, "Do you ever back a horse?" one replied, "I do a bit sometimes." The gentleman said "If you will give me £5 I will put it on 'X.Y.Z.,' and bring you the money when I bring my wife." He is a person of very gentlemanly appearance. Not many medical men would be taken in *re* the betting, but about the appointment they might. Hence this letter.

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